The development of the Chinese automobile industry since 1949: the role of government vol 1 and 2

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Executive Summary

This research analysed four main themes – role of government, globalisation, foreign direct investment (FDI), and industrial clusters in the context of Chinese automobile industry. The aim was to explore how these four elements were brought together to achieve industrial development and modernisation in the Chinese automobile industry since 1949. In particular, the globalisation process, speedily driven by the world economy, has been shaping the automobile industry in a profound way. With this mega trend, China was able to initiate a set of policies undertaken by the government to develop its own automobile industry in several regional clusters across the country, which in turn hastened the progress of modernisation. Moreover, FDI has been critical for remaking a once backward automobile industry into one that has large-scale assembly capacity, comprehensive local supply networks, and a new generation of indigenous car brands and models.

The overall methods adopted for this research are semi-structured face to face interviews and case studies. In order to accomplish the research aim, 11 interviews have been carried out with key personnel drawn from the Chinese automobile industry. Participants have been chosen because of their expertise on this topic. In addition, three case studies were developed on the performance of three different types of firms operating in China: private (Geely), state-owned (Chery), and joint venture (Beijing Hyundai). Three cases were analysed in-depth in order to gain a rich understanding of the context of operation in the Chinese automobile industry.

The key conclusions are both the role of government and FDI by multinational firms have been crucial to the development of the automobile industry in China and will be so for many years to come.

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List of Abbreviations

ACD	Automobile Club Demark
AFTA	ASEAN Free Trade Agreement
AIP	Automobile Industrial Policy
AMC	American Motors Corporation
ASEAN	Association of Southeast Asian Nations
BAEMRI	Beijing Automotive Economy and Management Research Institute
BAIC	Beijing Automotive Industry Corporation
BAW	Beijing Automobile Works
BJC	Beijing Jeep Corporation
BRIC	Brzail, Russia, India, and China
BYD	Build Your Dream
CAAM	China Association of Automobile Manufacturers
CAIC	Chang'an Automobile Industry Corporation
CATARC	China Automotive Technology and Research Centre
CKD	Complete Knock Down
DS	Developmental State
DSI	Drivetrain Systems International
EFEA	European Free Economic Area
EME	Emerging Market Economy
EPB	Economic Planning Board
EU	European Union
FAW	First Automotive Works
FCC	Free Coastal City
FDI	Foreign Direct Investment
GAIG	Guangzhou Automobile Industry Group
GAC	Guangzhou Automobile Group Co., Ltd
GDP	Gross Domestic Product
GM	General Motors
GNP	Gross National Product
ID	Industrial District
IDP	Investment Development Path
IMF	International Monetary Fund
JVs	Joint Ventures
LCV	Light Commercial Vehicle
M&A	Merger and Acquisition
MBH	Manganese Bronze Holdings
MC	Ministry of Commerce
MCI	Ministry of Commerce and Industry
MERCOSUER	Southern Cone Common Market
MITI	Ministry of International Trade and Industry
MMI	Ministry of Machines and Industry
MNEs	Multinational Enterprises
NAC	Nanjing Automobile Corporation
NAFTA	North American Free Trade Agreement
NDRC	National Development and Reform Commission

ODP	Open Door Policy
OECD	Organisation for Economic Co-operation and Development
OICA	International Organisation of Motor Vehicle Manufacturers
OLI	Ownership, Location and Internalisation
PATAC	Pan-Asia Technical Automotive Centre
PLC	Product Life Cycle
PRC	People's Republic of China
R&D	Research and Development
RIAs	Regional Integration Agreements
RITA	Research and Innovative Technology Administration
SAIC	Shanghai Automotive Industry Corporation
SASAC	State Assets Supervision and Administration Commission
SAW	Second Automotive Works
SCAP	Supreme Commander for Allied Power
SEZs	Special Economic Zones
SKD	Semi Knock Down
SMEs	Small and Medium Enterprises
SMMT	Society of Motor Manufacturers and Traders
SOEs	State Owned Enterprises
SPB	State Planning Board
SUVs	Sports Utility Vehicles
SVA	Shanghai Volkswagen Automobile
TAIC	Tianjin Automotive Industry Corporation
UN	United Nations
UNCATD	United Nations Conference on Trade and Development
US	United States
USSR	Union of Soviet Socialist Republics
VW	Volkswagen
WFOEs	Wholly Foreign Owned Enterprises
WIRs	World Investment Reports
WTO	World Trade Organisation
WWII	World War Two

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CHAPTER ONE – INTRODUCTION

1. Background

The automobile industry was a key industry world-wide for most of the twentieth century and its importance to the global economy is still vital. It is regarded as 'the industry of industries' and its significance lies both in its scale and in its linkages to many other industries and services (Drucker, 1946; Law, 1991; Dicken, 2007; Haugh *et al*, 2010). The industry is responsible for almost half of the world's oil consumption and uses up nearly half of the world's output of rubber, 25 percent of its glass, and 15 percent of its steel (*Economist*, 2004). Moreover, according to International Organisation of Motor Vehicle Manufacturers (OICA)[1] statistics, there are more than 8 million people directly involved in making automobiles and the parts that go into them. In addition, about 5 times more are employed indirectly in related manufacturing and service provision (OICA, 2007b). Based on this estimation, there are about 50 million people worldwide earning their living from this industry.

China became the world's largest automobile market in 2009 with a total production of 13.79 million units, a 48.3 percent increase when compared to 9.3 million units in 2008 (OICA, 2009; 2010). One year later, total production reached 18.26 million units in 2010, a 32.4 percent increase when compared to 2009, with total sales peaking at 18.06 million units (BBC, 2011). Meanwhile, the country also surpassed Japan in the second quarter of 2010 to become the world's second largest economy in terms of GDP behind the United States (US) (Barboza, 2010). This is the latest sign that China has joined the world's great powers after three decades of rapid economic growth.

[1] Founded in Paris in 1919 and is also known as "Organisation Internationale des Constructeurs d'Automobiles" (OICA, 2007a).

China's ascent has depended on growth and exports in a range of industries, from electronics to footwear and apparel; in addition, its continued rise is also tied to strategic industries such as automobiles, steel, petrochemicals, and telecommunications (Chin, 2010). The achievements made by the Chinese automobile industry are not accidental. In fact, the central government has always attached great interest to the development of the automobile industry and it was identified by the Beijing authorities as one of the country's pillar economies, both because it is a generator of employment and because high-quality, international-standard vehicles both aid and symbolise modernisation (Nolan, 2001; Gelb, 2004).

Following the establishment of the People's Republic of China (PRC) on 1 October 1949, the central government tried to make automobile industry a national industry by granting a high degree of protection. From 1949 to the late 1970s, although domestic automobile firms made some progress, there was still a large gap between Chinese and foreign automobile firms regarding technology, service, and scale (China Today, 2002).

China's modern automobile industry started when its first automobile firm – First Automotive Works (FAW), was officially opened with the assistance from Union of Soviet Socialist Republics (USSR) in 1956 in northeast city of Changchun (Zhu *et al*, 2007). The region possessed a high concentration of railway lines and other industrial development conducive to vehicle manufacture from the time of Japanese occupation between 1937 and 1945 (Harwit, 1995). Later, automobile firms were established in other industrialised cities such as Nanjing and Shanghai (Chen, 2008). Chinese automobile production fluctuated over the course of the nation's first decade. The early 1950s were marked by an emphasis on workers' innovation at manufacturing

level; however, with the arrival of Soviet experts in mid-1950s, the central government stressed the adoption of foreign methods and learning (Lynch, 1965).

In the years of 'Great Leap Forward' (1958 – 1960), with the Sino-Soviet split, the industry shifted back to self-reliance with campaigns being mounted against the dominance of foreign technologies and equipment mainly due to the change in the political environment (Xinhua Net, 2003). As a result, the whole nation produced just 98 passenger cars in 1960 and only 5 passenger cars in 1961 (Baranson, 1974; Harwit, 1995). The departure of Soviet technicians as the result of the Sino-Soviet split weakened China's ability to adopt foreign advanced technologies. With no foreign assistance, China showed a lack of ability to develop its automobile industry alone.

The focus on domestic bureaucracy-led technical advance finally ended in 1964 and imports resumed (Harwit, 1995). In 1971, China imported about 10,000 trucks, mostly from France, Italy, Japan, and Romania to meet rising domestic demand; however, domestic made automobiles still dominated the market, from 50 percent in 1970 to about 65 percent in 1975. Meanwhile, China also exported a small number of trucks to counties such as Albania and Tanzania as part of the country's foreign aid programme (Baranson, 1974; Szuprowicz and Szuprowicz, 1978).

Over the last three decades, China has experienced significant economic transformation and social change. Beginning in 1978, it adopted a series of economic reforms known as the 'Open Door Policy' (ODP) (Zhao *et al*, 2007). These reforms, which saw the end of Marxist-Leninist economics in China, were to secure finance for modernisation through capital liberalisation and to change the domestic industrial structure and increase the degree of integration of China's economy and its businesses into the global economy (Guo, 2007). Since then, China has been making its way

towards a market economy through the growth of modern industries (e.g. automobiles, electronics, and petrochemicals). In achieving this, China has relied considerably on foreign direct investment (FDI) as its borders become increasingly porous (Nolan, 2001; Lee *et al*, 2003; Taylor, 2010).

The opening up of the economy to FDI has witnessed various economic phenomena. For example, reform and/or privatisation of many state-owned enterprises (SOEs), infrastructural improvements, and the development of the south-eastern coastal areas such as special economic zones (SEZs) and free coastal cities (FCCs) as shown in Figure 1 (Hook, 1996; Leer, 1997; Lardy, 1998).

Figure 1 – Special economic zones and free coastal cities in China

Source: adapted from Xinhua Net (2004; 2007a)

Currently, there are 5 SEZs and 14 FCCs in China located along its 14,500 km coastline (OECD, 2000; Guo, 2007). Shenzhen was the first SEZ. Both Shenzhen and Zhuhai were named in 1980, followed by Xiamen and Shantou in 1981 and 1982

respectively (Xinhua Net, 2004). In the early stages of China's opening up, FDI was restricted to the first four SEZs and limited to equity joint ventures. Most of the initial FDI went into hotel construction and energy extraction (Whalley and Xin, 2010). With regards to FCCs, all were established from 1984 onwards. The economic reforms have led China achieving an average of 9.5 percent economic growth since the mid-1980s (OECD, 2005; Whalley and Xin, 2010). This growth also proved benefited to individual Chinese as from 1978 to 2002, income per capita increased at an average of 8 percent per annum (Fan and Chan-Kang, 2005).

Apart from economic reform and opening up its coastline, China also made commitments to the world economy by joining the World Trade Organisation (WTO) on 11 December 2001 (WTO, 2005; Luo and Zhang, 2010). On 1 January 2002, it reduced its import tariffs from an average 15.3 percent to 12 percent (Asia Times, 2002). The WTO accession had a pivotal impact on China's automobile industry as it entered a new era that encompasses changes brought by FDI through the ODP. The slashing of tariffs as a result of WTO accession was extremely significant with those on cars under 3L being reduced initially from 80 percent to 50 percent and then down to 25 percent in 2006 (Czinkota and Ronkainen, 2004; Chen *et al*, 2006; Thun, 2006; Chin, 2010).

Consequently, the reductions in tariffs alongside a consistent increase in real income per capita, coupled with improved production methods and standards, have given the automobile industry a huge potential to expand its markets (Brandt and Van Biesebroeck, 2006). Today, the industry consists mainly of a number of state-owned firms together with international joint ventures (JVs) between stated-owned and foreign firms and newly-established indigenous firms.

With the support of Shanghai municipality government, Volkswagen (VW) was one of the pioneer foreign automobile firms to establish JVs in China, first with Shanghai Automotive Industry Corporation (SAIC) in 1985, and then with FAW in 1991 (Shanghai Volkswagen, 2010; FAW Volkswagen, 2010). US firms have found entry to China rather more difficult apart from Beijing Jeep Corporation (BJC), established in 1983 between Beijing Automotive Industry Holding Co., Ltd (BAIC) and American Motors Corporation (AMC), the latter was acquired by Chrysler in 1987 (Thun *et al*, 2010). General Motors (GM) entered China by establishing a JV with SAIC in Shanghai in 1997 (Lee and Fujimoto, 2003). Ford took considerably longer time and agreed its first JV with Chang'an Automobile Industry Corporation (CAIC) Group only in 2001 (Dicken, 2007).

In the 1990s and 2000s, there came the Japanese and South Korean firms, Honda took over Guangzhou Peugeot, the French having decided to withdraw from China in 1997 after its JV with Guangzhou failed, and established its first JV with Guangzhou Automobile Group Co., Ltd (GAC)[2] in 1998 (Walter, 2003; Zhao and Gao, 2009; GAC, 2010). A second venture was subsequently formed with Second Automotive Works (SAW) in 2003 (Guangzhou Honda, 2010; SAW Honda, 2010). Toyota established its first JV with Tianjin Xiali Automobile Co., Ltd which is part of Tianjin Automotive Industry Corporation (TAIC) in 2000; later, TAIC was acquired by FAW in 2002, but the JV with Toyota was continued (Lee *et al*, 2003; Dicken, 2007; Chen, 2008; Tianjin FAW, 2010). Lastly, in 2004 Toyota formed a second JV with GAC (Guangzhou Toyota, 2010).

[2] Guangzhou Automobile Group Co., Ltd. (GAC) is integrally converted into a joint stock firm from the former limited liability firm in 2005 and was initiated by Guangzhou Automobile Industry Group Co., Ltd (GAIG)., Wanxiang Group Corporation, China National Machinery Industry Corporation, Guangzhou Iron & Steel Enterprises Group, and Guangzhou Chime-Long Hotel Co., Ltd (GAC, 2010).

Hyundai of South Korea entered China by forming its first JV with Beijing Automobile Investment Co., Ltd which is part of BAIC in 2002 (Buckley *et al*, 2004; Beijing Hyundai, 2010a). By 2005, almost all of the world's leading automobile firms had established production facilities in China (Luo, 2005; Buckley *et al*, 2007). To varying degrees, as a result of FDI, China's automobile industry became more and more integrated into the global production networks of multi-national enterprises (MNEs) (Liu and Dicken, 2006).

Apart from large traditional stated-owned firms (e.g. FAW, SAW) and international JVs (e.g. Beijing Hyundai, Guangzhou Toyota) mentioned above, the industry also includes a number of newly-established indigenous firms. Among these the leaders are Brilliance Automotive Co., Ltd (Brilliance), BYD Automobile Co., Ltd (BYD),[3] Chery Automobile Co., Ltd (Chery), Geely Automobile Holdings., Ltd (Geely), Great Wall Motor Co., Ltd (Great Wall), and Lifan Motors (Lifan) (Liu and Yeung, 2008; Wang, 2008; Chin, 2010). Brilliance was established in 1992; BYD officially entered automobile business by purchasing Xi'an Qinchuan Automobile Co., Ltd in 2003; Chery was founded in 1997 in Anhui province; Geely entered the automobile business in 1997; Great Wall comes from Hebei province and its history can be dated back to 1976; the Lifan Group entered automobile business in 2003, 11 years after the group was founded (Brilliance, 2010; BYD, 2009; 2010; Chery, 2010a; Geely, 2009a; Great Wall, 2010; Lifan, 2010). Together, these firms have already begun to export their products to circa 50 countries. The quantities exported are small due to weaknesses in product branding and technologies when compared to the established multinationals. Nevertheless, the new indigenous firms have poured vitality into the industry, and

[3] BYD stands for 'build your dreams' (BYD, 2010).

they also have high ambitions. Taking Geely as an example, the firm aims to sell 2 million units globally by 2015 (China Daily, 2010).

While the automobile market and other markets are gradually opening up, industrial policy in China is largely determined by two concerns of the government (Chen and Feng, 2000). First, a degree of protection is afforded to high-value-added and high-tech industries (e.g. aerospace, automobiles). This industrial policy may seem inconsistent with China's ODP, but such a policy may help develop the country's high-value-added industries in the long run if they can overcome the inefficiency problems ensuing from the lack of international competition that hindered their progress for so long (Chen and Feng, 2000). The second concern stems from the government's need to protect industries that incur financial losses and to control social unrest. Such industries (e.g. banking) are typically SOEs. Removing protections for these industries implies that massive layoffs will occur in inefficiently-run firms, leading to social chaos and political unrest (Kueh, 2008). Therefore, policy in China is mainly defined to favour high-tech industries while at the same time minimising social instability for political reasons.

As for the Chinese automobile industry, it does not exist in a perfectly free market; in fact, to a considerable degree, it is carefully guided by the government (Harwit, 1995; Liu and Dicken, 2006; Richet and Ruet, 2008; Chin, 2010). Government policy has been designed to ensure that the country’s automobile industry does not become dominated by foreign firms, and so it has embarked on a policy of parallel growth to ensure the emergence of an indigenous industry that will be capable of competing globally either alongside or in competition with foreign firms (Donnelly and Morris, 2003a; Thun, 2004; 2006; Chin, 2010). Although, foreign automobile firms have

found it rather difficult to access China, they take on the challenge due to continuous strong economic growth, rapidly raising disposable incomes, and expanding market potential. Some (e.g. VW) are even prepared to suffer losses in the short to medium term in the hope of significant returns in the future (Donnelly and Morris, 2003a).

In the light of the above, the Chinese government has been able to retain its bargaining power by being able to impose specific entry restrictions. As Dicken (2007) says, foreign automobile firms are anxious to establish themselves in China by the prospect of gaining access to what is seen as the world's largest and fastest growing market, which has led to a scramble to gain a market foothold in China. However, the Chinese government has exerted virtually complete control over such entry and has adopted a policy of limited access for foreign firms, including the form that their involvement can take. Here, therefore, there is an obverse of the usual situation, whereas in many cases, MNEs are able to play off one country against another to achieve the best deal, in the Chinese case, it is the state whose unique bargaining position has enabled it to play off one MNE against another (Baek, 2005; Liu and Dicken, 2006; Dicken, 2007; Zhao and Zhang, 2010).

Moreover, investing MNEs can sometimes find themselves caught up in the frequent power struggles between the central and provincial governments. The former usually recommends where firms should be located and identifies their JV partners, while the latter nominates their local suppliers (Harwit, 1995). For example, VW had the FAW almost thrust upon it in its second JV in Changchun, with the local authorities demanding a roll-out capacity of 150,000 per annum for its ageing Jetta model regardless of demand and FAW's technological capacity at that time (Donnelly and Morris, 2003a). Nevertheless, having automobile firms operating within a province or

region is viewed not only as a status symbol but also, in the eyes of local authorities, as a source of both current and future employment (Donnelly and Morris, 2003a; Donnelly *et al*, 2010).

2. Aim and objectives

To date, there have been very few longitudinal or historical analyses of the Chinese automobile industry in terms of growth and development over time, and it is this void that the research seeks to fill by focussing on the role of the state and, subsidiary to that, by examining the role of FDI, the role of joint ventures between Chinese and foreign multinational firms and by looking at the rise of Chinese independent firms such as Chery and Geely. Thus, the overall aim of the research is to analyse the development of the Chinese automobile industry and the role of the state. To achieve that, following specific objectives have been identified:

- To examine both global and Chinese automobile industries in the age of globalisation
- To review the growth pattern of the Chinese automobile industry since 1949
- To investigate the role of government in the development process
- To analyse the role of FDI in the development of the Chinese automobile industry
- To assess to what extent the Chinese automobile industry needs to improve in order to compete globally

The above objectives give rise to the key research questions which will be explored in the remainder of the thesis. These are:

- What were the key elements that fostered the growth of the automobile industry in China?
- To what extent did inward FDI via globalisation stimulate the growth process in the Chinese automobile industry?
- To what degree did the government assist or hinder the development of the automobile industry?
- Why did the indigenous firms grow so quickly?

The year 1949 was chosen as a starting point because in that year the new China was established. From then up to the time of writing, the time scale covers more than 60 years; however, the research pays special attention to the development of the Chinese

automobile industry over recent 30 years as the industry did not really develop until about the 1980s. Regarding the research methodology,[4] it follows a mainly qualitative approach. In order to accomplish the research objectives, a series of research methods have been chosen. Three case studies have been developed on the performance of three different types of automobile firms currently operating in China including private (Geely), state-owned (Chery), and joint venture (Beijing Hyundai). Both Geely and Chery are representatives of new generation Chinese automobile firms.

Three cases are analysed in detail, aiming to gain a rich understanding of how different types of automobile firms operate in China, to generate answers to questions such as 'why do firms take this particular form?', 'what has FDI brought to them?', and 'how government policy affects each firm?' In addition, after each of the cases has been analysed, an attempt will be made to highlight the relative similarities and differences in how each of the firms has evolved.

Moreover, a combination of both secondary and primary data has been used in this research. Documentary secondary data was used as a complement to primary data. Written documents such as administrative and public reports, books, websites, conference papers, journals, magazines, and newspaper articles were used. Primary data collection method adopted for this research is semi-structured face to face interviews with firms' senior managers, consultants, journalists and academic experts who have been involved in the Chinese automobile industry. Participants have been chosen because of their expertise on this topic and because of the important role they play in their organisations.

[4] The methodology for this research is analysed in detail in chapter 3.

3. Structure of the thesis

The subsequent paragraphs provide an outline of the contents of each chapter. Chapter 2 provides a detailed review of existing theoretical concepts and concentrates on the role of government, globalisation, FDI, and industrial clusters. These four elements are essential to an understanding of the Chinese automobile industry and its subsequent international linkages as it became increasingly integrated into the global economy and attracted FDI from the multinational automobile firms. Without FDI, the Chinese automobile industry could have not developed as rapidly as it has done. Meanwhile, it needs stressing that inward FDI in the automobile industry has been controlled tightly and carefully guided by the government. Finally, although the Chinese automobile industry is still fragmented in terms of numbers of firms, the majority of major automobile firms operate within regional industrial clusters.

Chapter 3 establishes the research methodology. It begins by introducing the conceptual frameworks of research and then proceeds to explain research philosophy and the significance of the terms – ontology and epistemology. Later, it evaluates the strengths and limitations of different research approaches to justify the choice of the present research strategies (semi-structured interviews and case studies). It also defines the data collection methods used (primary and secondary), their sources, strengths and drawbacks, and scope of the research in terms of validity and reliability. Finally, the significance of the study is discussed.

Chapter 4 analyses the global automobile industry. The chapter reviews the global automobile industry in various aspects. It first of all discusses the physical growth in production since 1950 and the changes in the geography of production. It further

analyses the automobile industry with regards to regional integration by focusing on activities of major automobile firms (e.g. GM, Ford, and VW). Meanwhile, it also focuses on changes in technologies and how this has been made possible by the moves from craft to mass and to lean production.

Chapter 5 reviews the context of the Chinese automobile industry. Historically, the development of the industry has not been steady. From the early 'Great Leap Forward' through the 'Culture Revolution' to the ODP, the industry has experienced different phases and these are delineated from 1949 onwards. In addition, it also explains the role of government in the development process. The Chinese government (central and regional) has exerted a significant impact on the development of automobile industry. Although the government would like to develop its domestic industry with the help of foreign firms, it is aware that foreign firms could take the market majority with their advanced technologies and skills and so seeks parallel development. Moreover, the chapter also examines the impact of FDI in the Chinese automobile industry by investigating the history of the FDI in automobile industry since the 1980s and then proceeds to discuss entry methods that foreign automobile firms have followed. Finally, it details various government policies towards the automobile industry and evaluates their effectiveness.

Chapter 6 provides three case studies which have been developed on the performance of three different types of automobile firms operating in China: private, state-owned, and joint venture. These three types of firms represent the majority of automobile firms operating in China in terms of corporate structure. According to Edge and Coleman (1986), case study approaches give valuable practice in bringing evidence, theoretical concepts, and other applications to bear on the actions and concequences

that have occurred in real situations. The reason for choosing a case study path as one of the research methods is that compared with other methods, it is best suited to examine/observe a case within its real-life context (Yin, 2003; 2004).

Moreover, many authors[5] who have previously undertaken research on Chinese automobile industry have adopted this method. The case study will be completed by data collected from fieldwork/interviews alongside the secondary sources. Various questions will be explored and discussed such as 'how difficult has it been for indigenous firms to establish market credibility?', 'how have these firms been able to develop so quickly?', and 'how can such firms compete against foreign and large state-owned firms?'

Chapter 7 is the conclusion in which research results are discussed with the identification of the main outcomes in relation to research objectives. In addition, contribution to knowledge is provided. Finally, it will also conclude with a discussion of limitations of the research and suggests topics for further research.

[5] Gregory Chin, Eric Harwit, Eric Thun, Kelly Gallagher, and Yang Xiaohua.

CHAPTER TWO – LITERATURE REVIEW

1. Introduction

The literature review for this research contains four elements as pointed out earlier in chapter 1: role of government, globalisation, foreign direct investment (FDI), and industrial clusters. They have been chosen due to their essential influences on the Chinese automobile industry. Regarding the role of the government, the government has been heavily influential in the development of the automobile industry all around the world. Good examples of this are Japan's *Keiretsus* (e.g. Toyota, Mitsubishi) and Korea's *Chaebols* (e.g. Hyundai). How the Japanese and Korean governments supported and guide the automobile modernisation will be discussed later in this chapter. As for China, the central government has always attached great interest to the country's automobile development and it was identified by the Beijing authority as one of the country's pillar industries due to its importance in the national political, social, and economical spheres (Harwit, 1995; Nolan, 2001; Thun, 2004; 2006; Chin, 2010). Moreover, the central government would like to build its own national champions – Chinese versions of GM and VW to lead the country's modernisation. As a result, the role of the government has been chosen as the overall theme of the thesis and the other three (Globalisation, FDI, and Industrial clusters) are considered as subsidiary to it.

Turning to globalisation, as Western European and North American markets are becoming increasingly mature due to demographic reasons such as low birth rates and low rates of economic growth, more and more vehicle purchases are replacements in contrast to the new growth demand that is emerging strongly in other regions (Dicken, 2007). This means that the world's leading automobile firms have to find new,

alternative sources of demand and these are to be found in the rising markets of the Far East and Asia, especially China with its burgeoning population of 1.3 billion, whose living standards are rising relatively quickly. A key aspect of the success of globalisation is the emergence of China as a major player in the world economy (Buckley *et al*, 2005). After so many years' of isolation (1950s – 1970s), the central government started to gradually open its market in the late 1970s and play 'catch-up' by gaining access to advanced technologies, modern organisational structures and practices (Luo *et al*, 2009). It moved further by joining the WTO in 2001 (Luo and Zhang, 2010). With the forces of globalisation at work, the Chinese government saw the opportunities available and husbanded ambitions to be a global player in the automobile industry, and so move away from its image of being a producer/exporter of cheap goods. With the process of economic globalisation and gradual integration of China's economy with the global system, China has also been able to attract FDI successfully (OECD, 2005).

FDI has played, and is still playing an important role in the development of the Chinese automobile industry. After 30 years' of slow uneven and often sporadic economic development since 1949, the central government came to realise that it was impossible for China to catch up with the West if it followed autarkic policies and therefore, it had little choice but to initiate the Open Door Policy and invite western firms into its market. Indeed, as will be shown later, the advanced technologies as well as new forms of work organisation, production process, management know-how, and rising quality standards imported by foreign firms through FDI have brought a major transformation in China's automobile industry from the 1980s and 1990s onwards (Gallagher, 2006). Moreover, the close linkage between FDI and role of the state is often illustrated as a demonstration of the increasingly important role of

multinational enterprises (MNEs) in the global economy and of the relationship between the firms and the governments of the recipient states they enter. More specifically, the role of FDI raises question of how much control the government of recipient economies can exercise over the activities of foreign multinationals within their borders (Chin, 2010).

Finally, regarding industrial clusters, as China opened up to the world in the early 1980s by governments channelling FDI to regional clusters such as special economic zones and economic development districts, value-added industries such as automobiles have then been established within the clusters in the form of JVs in line with stated industrial policies. Although until recently the Chinese automobile industry was highly fragmented which was unlike the pattern in western economies, particularly in Western Europe (e.g. UK West Midlands) and the US (e.g. Detroit); since the mid 1990s, there is evidence of growing clusterisation in China and, therefore, it is important to look at the types of automobile clusters that have emerged in China.

This literature review will not just focus on summarising a work or group of works of other authors and look for adequate definition, unbiased information collection, and statistical treatments; but more importantly, it looks for justification, explanation, relationships, and comparisons. For example: by illustrating the role of government with examples drawn from three East Asian countries (Japan, Korea, and China), a greater understanding was gained of what governments have done in facilitating economic reform; by comparing globalisation with internationalisation and regionalism, a wider view of the notions embodied in each of the concepts was achieved; by explaining each of the selected FDI theories, the discourse explores the

strengths and weaknesses of each, which also facilitates a deeper understanding of how theories developed one after another so adding to our knowledge of how the subject developed over time. The following paragraphs provide an outline of the contents of the literature review.

Part I of the literature review begins by introducing two different views of economic development, the market-friendly view and the developmental-state view, regarding the role of government in emerging markets. More specifically, the discussion proceeds to analyse developmental state theory through the works of academics such as Johnson (1982), Wade (1990), Evans (1995; 2008), Woo-Cumings (1999), and Wong (2004). After that, the review demonstrates how important the role of government is in economic development processes in emerging economies with examples drawn from the three previously mentioned East Asia countries. Of these, only China seems to fit the category of emerging markets at the present time. Japan is already one of the most developed countries in the world and South Korea also enjoyed relatively high income per capita with $19,890 in 2010 (BBC, 2012). However, this section illustrates how each government has encouraged economic growth and development in their transition periods.

The justification for choosing these three countries is that they demonstrate that policy activism of national governments is critical in accelerating the developmental process and that the role of government has played a key part in East Asia's remarkable economic transformation and growth. Moreover, these three countries have been chosen because of the strong economic linkages between them, because of the demonstration effects of each economy on the others, and because of their shared cultural and historical heritage and ethnic affinity (Li *et al*, 2010). Finally, since the

automobile industry in both Japan and South Korea has played an important part in industrialisation process under governments' guidance, it is also of significant relevance both to China and to this research.

In part II of the literature review, three aspects have been chosen to review globalisation. Firstly, the concept of globalisation, various definitions both from organisations and scholars are presented to gain an understanding of the terminology. Secondly, as regards to globalisation versus internationalisation, scholars have different opinions on whether the world we are living now should be called a globalised or an internationalised world and have been debating this for decades. Both opinions are presented and analysed with conclusions being drawn. Finally, in focusing on globalisation versus regionalism, questions such as 'why regionalism can happen?' and 'can both globalisation and regionalism develop at the same time?' are discussed in detail with some of the world's major forms of regional economic integrations being reviewed. As for the automobile industry, on the surface it represents one of the most archetypical global industries whereas in reality it resembles more a world of regions with several key players from any regional groups. Thus, regional integration is often viewed as a means for creating production systems able to meet the supply and demand for cars in a specific region so creating what could be described as regional space within a globalised context.

In part III of the literature review, key theories on FDI are studied. Since the literature on this area is enormous, a selective approach has been adopted based on the degree of relevance. This section begins by introducing general features of FDI including: the concept, reasons for engaging in FDI and its measurement. Much attention has been paid to the theories and insights developed by the pioneers of FDI including: Hymer's

special advantage theory, Vernon's product life cycle theory, Buckley and Casson's internalisation theory, and Dunning's eclectic paradigm and investment development path. The focus of FDI theories study draws on the content of each theory and the linkages between them. These theories have been selected due to their influences in FDI literature over decades. The section tries to emphasise that there is no single universally accepted FDI theory, but attempts to discuss the strengths and weaknesses of each theory and shows how these theories are developed one after another almost sequentially. Much of the recent geographical restructuring of the world's automobile industry has taken place through the process of FDI undertaken by the industry's major corporations (e.g. GM, Ford, and VW), either through acquisition or the establishment of Greenfield sites or by forming joint ventures (JVs) to enable them to penetrate emerging markets such as China.

Finally, part IV of the literature review focuses on industrial clusters. Various aspects are discussed including: clusters and the automobile industry, types of clusters. Moreover, theories related to industrial clusters are also reviewed such as: Markusen's industrial district (ID), Porter's diamond model, and Kuchiki's flowchart model. Theories are presented here to discover conditions required to form clusters. It is worth briefly mentioning here that clusters are only beginning to emerge in China's automobile industry and they are primarily FDI-based automobile clusters which differ from classical Silicon Valley co-location type clusters (Liu and Dicken, 2006).

2. The role of government in emerging economies

2.1 Debate on the role of government in emerging economies

An emerging market economy (EME), a term coined in 1981 by Van Agtmael, is said to have a per capita income in the lower-middle range if calculated by world incomes

at the per capita level and such countries constitute approximately 80 percent of the global population, representing about 20 percent of the world's economies (Van Agtmael, 2008). Examples of such economies are: Brazil, China, and India. EMEs are countries that seek to restructure their economies along market-oriented lines and offer a wealth of opportunities in trade, technology transfers, and FDI (Heakal, 2007). EMEs are also characterised as transitional, meaning they are in the process of moving from a closed to an open market economy while building accountability into the system (Cypher and Dietz, 2004). As an emerging market, a country is normally embarking on an economic reform program that will lead it to stronger economic performance levels, as well as greater transparency and efficiency in the capital market (Wade, 1990; Cypher and Dietz, 2004; 2008).

As Wang (2000) indicates, emerging reforming processes in an economy aim at gradually establishing the market as the central mechanism of resource allocation. The market, however, is not a panacea for solving all socio-economic problems. Therefore, there will be opportunities for governments to play an essential role (Gerschenkron, 1962; Aoki *et al*, 1998). For example, the role of government in improving general economic and social welfare should not be dismissed or underestimated, even in mature market economies (Reich, 1989).

The role of government in the contemporary world economy continues to fascinate scholars. According to Dunning (1997) and Burki *et al* (1999), three major events have challenged much of received wisdom about the extent and form of the involvement of national governments in the organisation of both domestic and international economic activity. These are: first, the widespread renaissance of the market economy as the dominant socio-institutional system of resource allocation;

second, the emergence of several new economies as powerful industrial players on the world economic stage; and third, the evolving globalisation of production and markets, which is encapsulating, and reconfiguring the nature of economic space (Dunning, 1997).

The role of government in EMEs has long been a highly contentious issue and scholars find it difficult to reach agreement on whether government intervention in the emerging process played any positive role, especially in the remarkably high rate of economic growth in East Asian region over recent decades (Aoki *et al*, 1998; Cypher and Dietz, 1997; 2008). According to Wade (1990) and Aoki *et al* (1998), there are basically two different views: the 'market-friendly' view and the 'developmental-state' view. The market-friendly view argues that most economic coordination can be achieved through market mechanisms.

Based on this approach, East Asian economic development can be explained by economic openness, little government intervention and macroeconomic stability that provided proper incentives for savings and investment as well as high levels of human capital accumulation. The role of government in this scenario is limited to providing a legal infrastructure. In contrast, the developmental-state view considers that resource mobilisation, allocating investment, and promoting technological catch-up can go wrong in economic reform; therefore, government intervention is necessary to remedy it and supporters of this view believe that only strong governments can handle these elements (Aoki *et al*, 1998). Based on this approach, East Asia's economic miracle was due to effective and many-sided polices of state intervention rather than just opening-up the market (Radice, 2008).

2.2 Developmental state theory

In the late 1990s, major theoreticians, particularly Joseph Stiglitz, advanced discussion on the role of state (Cypher and Dietz, 2004). Since then, others such as Chang (2002), Evans (1995), Johnson (1982; 1999), Wade (1990; 2005), and Woo-Cumings (1999), have made great strides in developing a robust theory of the role of state, and finally came up with developmental state (DS) theory. They believe that the theory of DS as an explanation for the rapid economic growth and industrialisation of East Asia region in the second half of the twentieth century.

In fact, the idea of DS is not something new or distinctly Asian; it is believed that historically, it existed in Bismarck's Prussia (1862 – 1890) and in Japan during the Meiji era (1868 – 1912) (Gershenkron, 1962; Wong, 2004; Bolesta, 2007). Nevertheless, it is "the research on East Asia which eventually prompted the theory's formulation and allowed for it to be implemented in the scholarly debates and literature" (Bolesta, 2007: 105). A developmental state is independent, but exercises political power over the economy. It is characterised by having strong state intervention in economic and industrial affairs as well as employing extensive regulation, planning and the avoidance of social unrest (Leftwich, 2008).

It was Johnson's study on the relationship between Ministry of International Trade and Industry (MITI) and Japanese industrialisation from 1925 to 1975 that pioneered debate on the DS. Johnson (1982) describes the relationship between state and society as a seamless web of political, bureaucratic and moneyed influences that structure economic life. A developmental state is positioned or contrasted between free market economic system (e.g. US) and centrally planned economic system (e.g. former Soviet economies) (Johnson, 1982; Woo-Cumings, 1999).

Evans (1995) gives DS a more conceptual meaning. According to Evans (1995), the key characteristic of DS is embedded autonomy. The embeddedness (or state-society synergy) posses a variety of institutionalised channels where the state and the private sector interact in a constructive manner via a joint project (Thun *et al*, 2010). These broad and dense institutionalised channels of communication and interaction provide the relevant links between the state and the private sector. Within the links, the state is continually in the process of constructive negotiation and renegotiation of policies and goals intended to move a society toward a higher and higher level of economic and social development (Pempel, 1999; Evans, 2008). Embeddedness implies a concrete set of connections that link the state intimately and aggressively to particular social groups with whom the state shares a joint project of transformation (Evans, 1995; Thun *et al*, 2010). Taking China as an example, it has a very old state tradition, a tradition of statecraft, stretching from the building of the Great Wall to the Qinghai – Tibet Railway and the Three Gorges Dam. For the Chinese automobile industry, FDI is a type of market-led and embedded investment which is characterised by joint ventures and the follow-up network configurations (Liu and Dicken, 2006). However, in order to achieve such embeddedness on the part of MNEs – and for the state and its citizens to gain its benefit – the state not only has to have the theoretical capacity to control access to assets located within the country, but also the power actually to determine such access.

However, as Evans (1995) further explains, embeddedness alone is not enough, because there is a danger that the state can be captured by the very interests and sectors it seeks to guide, promote, and control. To avoid the risk of capture, state must have integrity and engender loyalty and that is why autonomy is needed. Autonomy

implies that state can stand alone, above the fray and beyond the controlling reach of vested interests which would seek to capture the power of the state and turn that power to their very specific, short-term advantages. An autonomous state has to be able to draw on its own vision of economic transformation (Cypher and Dietz, 2004; 2008). As for the Chinese automobile industry, in order to accelerate the development of the industry whilst, at the same time, avoiding ceding full control of the industry to foreign MNEs, the government has promulgated a set of integrated regulations (e.g. Automobile Industrial Policy 1988, 1994, and 2004) on the entry of automobile-related FDI (Liu and Dicken, 2006; Luo *et al*, 2009). The policy set out clear requirements for the formation of joint ventures, the qualification of foreign partners, and product localisation. For example, joint ventures were required to establish an internal research and development (R&D) centre, to produce motor vehicles to international standards and, whenever possible, to achieve an internal foreign currency balance. A foreign firm is allowed to have up to two joint ventures or cooperative ventures producing the same kind of vehicles. Moreover, in assembly and engine-manufacture joint ventures, foreign equity could not exceed 50 percent (Thun, 2004; Chin, 2010).

While the world witnessed East Asia's fast economic development and industrialisation, the DS theory has become more widely accepted. However, there are concerns: 1) can a DS be created in an economy of a neo-liberal nature? 2) can a DS exist under democracy? 3) why so far has the DS worked in East Asia? "It seems hardly possible to achieve extensive developmental goals in an environment where states have very limited power in directing investment, regulating its intensity and influencing institutions so that they follow a certain overall development strategy" (Bolesta, 2007: 106). Moreover, Chang (2002) underlines that one of the most

important factors of the DS is its ability that it usually possesses the necessary power to deal with any political, social, and economic instability that may occur and so inhibit the development process.

Introducing Western-style democracy in East Asia may also seem unrealistic, as according to Johnson (1999), in contemporary Japan, it is the state bureaucracy which manages the county's affairs, regardless of which political party is in power. Moreover, the state bureaucracy is seemingly unaffected by democratic elections. In addition, as in other East Asia countries (e.g. South Korea), while the party or state may be democratically elected, the form or structure which the state takes to run the country is actually authoritarian. Finally, there does not seem to be a comprehensive answer to why the DS has particularly worked in East Asia. This statist philosophy was attractive to ruling elites; however, the state-led successes in East Asia will not be easy to follow, because of the fact that state and society were intertwined due to unique historical and cultural circumstances (Evans, 1995; Bolesta, 2007). The trauma caused by the war (e.g. WWII, civil wars) in these countries in the past made them to realise a painful truth – 'lagging behind leaves one vulnerable to attacks', which, in turn, encouraged a degree of unity within the country and facilitated a concentration on economic development to accelerate modernisation towards building a prosperous society.

2.3 The developmental state in East Asia

The DS theory has drawn most heavily on East Asian experience, especially on those countries which have managed to change their position in the world economy from under developed to more developed countries in the course of a few generations (Huff *et al*, 2001). The need for selective or other interventions to promote industrialisation

and economic growth was widely recognised by countries. According to Evans (2008), this kind of shift is not only unprecedented among twentieth century developing countries, but exceptional even in a broader context that includes the historical experience of Europe and US.

East Asian governments managed to generate a sense that they were genuinely committed to a collective project of national development and this sense of a national project gained surprisingly widespread credibility. In addition, the essential complement to this broad sense was a dense network set of interpersonal ties that enabled specific agencies and enterprises to construct joint projects (Wong, 2004). Below, three countries, for reasons stated earlier, (e.g. Japan, South Korea, and China) have been selected to demonstrate the role of government played during their development process.

2.3.1 Japan

Since the late 1940s and early 1950s, the central government of Japan has had a special role in organising and supervising Japan's economic catching-up effort in the post WWII period (Ozawa, 1997). Its remarkable industrial renaissance was not inevitable, but a consequence of the efforts of a planned rational state. A planned rational or DS was one that was determined to influence the direction and pace of economic development by directly intervening in the development process, rather than relying on uncoordinated influence of market forces to allocate economic resources (Johnson, 1982; Beeson, 2004). Indeed, during the 1970s and 1980s, Japan's DS had become accepted as a role model for industrialisation and economic development (Johnson, 1982).

As mentioned earlier, one of the key elements of a DS and an essential prerequisite for managing the developmental process is the existence of a pilot agency. In the case of Japan, that pilot agency is Ministry of International Trade and Industry (MITI), created through the splitting up of the Ministry of Commerce and Industry (MCI) in May 1949 (Cowling and Tomlinson, 2000). According to Singh (1994: 1814), the influence of MITI to the Japanese economy is described as following:

> The MITI decided to establish in Japan industries which require intensive employment of capital and technology, industries that in consideration of comparative cost of production should be the most inappropriate for Japan, industries such as steel, oil-refining, industrial machinery of all sorts, and electronics. In a short-run, encouragement of such industries would seem to conflict with economic rationalism, but in the long-run, these are precisely the industry where technological progress is rapid, and labour productivity rises fast. It was clear that without these industries it would be difficult to employ a population of 100 million and raise the standard of living to that of Europe and America with light industries. Fortunately, Japan has been able to concentrate its scant capital in strategic industries.

MITI has run much of Japan's industrial policy, funding research and directing investment, and it is now one of the most powerful agencies in Japanese government. MITI was charged initially with task of directing the course of development itself, and employs and devises a range of policy tools to ensure that indigenous business is both nurtured and managed in the overall national interest (Wade, 1990; Beeson, 2004).

MITI actively encouraged mergers between leading firms in key industries, especially the automobile industry; however, it was also aware of the need to avoid monopoly and encourage oligopolistic rivalry (Cowling and Tomlinson, 2000). It closely monitored market shares and prevented any single investment from being so large as to destabilise the market (Amsden and Singh, 1994; Nolan, 2001). Moreover, the Japanese policy-makers realised that Japan was disadvantaged by its lack of natural resources at home, its industrial backwardness relative to international competitors

and so a key part of MITI's function was to assist in addressing such issues. Finally, it was acknowledged that the free-market approach alone would not work as a catching-up mechanism (Ozawa, 1997).

Traditionally in Japan, macro-organisational policy was not only pursued by the government, and it was also heavily influenced by industrial groups known as *Zaibatsu* in the pre WWII period. After the Japanese surrender in 1945 the Allies abolished *Zaibatsus*, but later "the government encouraged their reconstruction, albeit in a somewhat looser form, known as *Keiretsu*" (Nolan, 2001: 17). In other words, the policy was carried out simultaneously and in close coordination between the government and industrial groups (Ozawa, 1997; McGuire and Dow, 2009).

Table 1 – Examples of Japan's Keiretsu

Name	Businesses	Date
Mitsubishi	automobile (Mitsubishi), chemicals, finance, iron and steel, petroleum, shipping	1954
Sumitomo	automobile (Mazda), electronics, finance, iron and steel, railway	1951
Mitsui	chemicals, electronics, finance, iron and steel, petroleum	1961
Fuji Group	automobile (Nissan), electronics, finance iron and steel	1966
Dai-lchi Kangyo	automobile (Isuzu), chemicals, electronics, finance, petroleum	1978
Toyota Group	automobile (Suzuki, Toyota), electronics, finance, petroleum,	1974
Sanwa	chemicals, finance, iron and steel, shipping	1967

Source: adapted from MBAlib (2011)

Table 1 lists major *Keiretsus* in Japan, all of which are long established. Every *Keiretsu* has its own financial operation. Indeed, within each *Keiretus* network, the prime firm's main financial relationship is with its main bank, which provides not only long-term credit finance, but also, through being a major stockholder, offers assistance and guidance in financial matters and in developing foreign markets as well

as supplying information about potential investment ventures. However, despite this influence, each firm is regarded as being autonomous, and the main bank only intervenes if the firm is in financial distress (Aoki, 1994). Moreover, almost all major Japanese automobile firms belong to one *Keiretusu*, or another. For example, Isuzu to Dai-Ichi Kangyo, Mazda to Sumitomo, and Nissan to Fuji Group. The *Keiretsu* system is a clear example of how firms, working within tiers networks or clusters (e.g. Toyota city) can generate economic growth and prosperity (Cowling and Tomlinson, 2000). In this respect, the *Keiretsu* networks share similar characteristics with 'industrial clusters' which are analysed in part IV of the literature review.

The Japanese government and industry, often working in a close collaborative manner, has been described by outsiders as 'Japan, Inc.' (Bardhan, 1988; Ozawa, 1997). In fact, the strategic approach adopted by the Japanese government and industry is now widely recognized among institutions as an effective and justifiable way of accomplishing the national task of catching up.

2.3.2 South Korea

China looked to both Japan and South Korea as possible role of models. From the mid 1980s, Japan was the preferred model because of its industrial and export success. In the following decade, Japan's economy waned and fell into a deep and prolonged recession. Throughout the 1990's, the Japanese economy has been plagued by a number of economic crises. The 1989 Tokyo stock market crash was subsequently followed by a collapse in property values (1991), which was followed by a recession (1991-1993), stagnant growth, a fiscal and financial crisis (1997), and recession again (1998-1999) (Cowling and Tomlinson, 2000). It was Japan's failure to recover in the late 1990s that caused China to switch its economic focus to Korea and its *Chaebols*

(e.g. Hyundai, Kia), which at that time were making significant strides in the global economy and so they were chosen as alternative role model for the decade beginning in 2000.

The *Chaebols*, a group of large family-owned and family managed conglomerates, are one of the pillars of Korean industrial development (Kim and Huh, 1993; Chang, 2002). According to Dunning (1997) and Lall (1997), the *Chaebols* were handpicked by the near-authoritarian government and were given a range of subsidies and privileges, in return for pursuing the government's industrial strategy of setting up capital and technology intensive activities geared to export markets. Therefore, *Chaebols* carried the hope of the government to internalise and overcome the deficiencies in the local markets for capital, skills, technology, and even infrastructure. In time, with the help of domestic research and development institutions such as universities, *Chaebols* were able to market their products abroad by creating their own brand image and distribution networks without a heavy reliance on FDI, but have always been subject to a considerable degree of government discipline.

Table 2 – Examples of South Korea's Chaebols

[6] Measured in Trillion Won.

The South Korean government used pre-existing powerful business families as the foundation for *Chaebol* structure. Large firms remained predominantly family-owned throughout its catch-up process (Nolan, 2001). Table 2 lists some of the largest *Chaebols* in South Korea. These *Chaebols* were the core of the county's economic development and "by the mid-1980s, the top 10 *Chaebols* accounted for over two-thirds of national product" (Amsden, 1989: 116). According to Ruigrok and Van Tulder (1995: 221), "virtually all of the world's largest core firms have experienced a decisive influence from government polices and/or trade barriers on their strategy and competitive position. There has never been a level playing field in international competition, and it is doubtful whether there ever will be one".

Compared with *Keiretsu* in Japan, the role of small firms and business networks among *Chaebols* are less significant, so are markets and obligation networks between large firms; inter-firm relationship are also less particularistic and less reciprocal than in the Japanese model (Yanagimachi, 2004). In term of management style, *Chaebols* tend to be militaristic; therefore, middle management has little autonomy or influence on decisions. In addition, there are great variations in reward systems by position and gender which may lead to a lack of employer commitment to employee welfare and security (Yanagimachi, 2004). Thus, labour turnover in *Chaebols* can sometimes be very high. In contrast, the relations within *Keiretsu* are rather more personal than firm bound. Within a *Keiretsu*, there is a high degree of communication and solidarity among personal and relationships between firms within it are based on mutual trust (Yanagimachi, 2004).

In moving from an agrarian to a more industrialised economy, the government adopted a strategy of supporting the growth of existing firms (*Chaebols*), rather than

encouraging the formation of new firms. According to Hasan (1976: 29), "South Korea's economy depends in large measure on private enterprise operating under highly centralised government guidance, the government's role is considerably more direct than that of merely setting the broad rules of the game and in influencing the economy indirectly through market forces. In fact, the government seems to be a participant and often the determining influence in nearly all business decisions." A similar conclusion drawn by Mason *et al* (1980: 254) in study of South Korea's economic development, "the rapid economic growth that began in Korea in the early 1960s and has accelerated since then has been a government-directed development in which the principal engine has been private enterprises."

2.3.3 China

Compared with above two East Asian countries, China's economic reform and industrialisation seem to be more complex given its enormous population and market size, political system, and ideology. China's emergence as an economic power through economic reform is regarded as "a story of the force of globalisation, a story of the complex political situation that saw a communist regime transform itself and a story of allowing foreign multinationals to set up shops in China"(Guthrie, 2009: 3).

Beginning with Hungary in the 1960s, many Eastern European communist countries embarked on the path of transition from planned to market economic systems. Research on transforming those economies has given rise to two basic views of economic change in these societies (Nee, 2010). On the one hand, scholars, such as Sachs and Woo (1994), believe that markets operate primarily through private interests and individual incentives, and that market economies are built upon the foundation of private ownership and incentives (Sachs and Woo, 1994; 1997). Given

that communist-planned economies are basically organised around state ownership and institutional arrangements that often lead to many distortions in terms of market relationships, it, therefore, has been suggested that rapid privatisation is the only viable path of transition from planned to market economies (Kueh, 2008; Guthrie, 2009). Rapid privatisation, which can create an extreme 'shock' to society undergoing such a transition, has accordingly been given such labels as 'shock therapy' or 'big bang approach' to economic reform (Liu and Cai, 2007; Kueh, 2008). Examples of countries that adopted this method are Bulgaria, Czech Republic, and Russia.

On the other hand, it has been argued by Naughton (1994), Rawski (1994), and Walder (1995) that markets are fundamentally political, social, and cultural systems and a stable transition to a capitalist system must occur in a gradual fashion, with significant and constant support and guidance from the state. Market institutions and economic practices that individuals and organisations adopt cannot be reduced to a simple equation of private interests and the individual pursuit of profits (Wang, 2000). The political, cultural, and social forces to which market institutions are subject are simply too powerful to ignore, so economic change must move forward in a slow, incremental fashion (Aoki *et al*, 1998; Radice, 2008). The Chinese reforms have embraced the gradualist view, and have edged through a gradual and stable path moving towards a more market oriented economy via the Open Door Policy (Guthrie, 2009).

At the centre of the tension between these two schools of economic reform is a debate over the role of state in the reform process. As discussed earlier, the East Asian countries have experienced a rapid economic growth through industrialisation which was supported and guided by the government. Here, the idea of DS also applies to

China's reform. In fact, China's reform process is another example of the extent to which economic development and transitions are indeed a political process (Luo *et al*, 2009; Chin, 2010). In China, the government has consistently guided the reform process, maintaining control over greater part of the industrial economy and either tightening or loosening fiscal policy as appropriate (Thun, 2006). Moreover, the government has experimented with, and gradually introduced, policies and laws (e.g. Automobile Industrial Policy 1994 and 2004) through which the new markets that increasingly govern economic process in China have been constructed (Liu and Cai, 2007; Guthrie, 2009).

The critical point here is that China's path through economic reform has been gradual, experimental and fundamentally political. Sachs and Woo (1994; 1997) state that even with the dramatic growth in China over the past three decades, the reform effect would have been much more successful if a programme of rapid privatisation had been adopted. However, Guthrie (2009) argues that it is difficult to argue that gradualism has not been a dramatic success in China, especially if we compare the successful reform in China with the serious problems experienced in countries such as Czech Republic and Russia. Although China remains an authoritarian political system, over the past three decades of reform, the government has gone a great distance in gradually making the slow transition to democracy (Nolan, 2001). Although many in the West do not want to acknowledge it due to what may be a more political reason, China is gradually but steadily building the institutions of a democratic society (Guthrie, 2009). With the latest huge economic stimulus launched in 2009 by channelling $685 billion to fund infrastructure projects and mostly state-owned firms, China has become an engine of global economic recovery, and is viewed as the latest

entry in the pantheon of successful developmental states along with Japan and South Korea (Nee, 2010).

2.4 Comparisons on the role of government to the automobile industry (Japan, South Korea, and China)

The previous section analysed the role of government in the economic process in each of these countries' economic industrialisation. This section focuses on the automobile industry and seeks to investigate what the government has done in fostering the automobile industry's development with comparison from the experiences of Japan, South Korea, and China.

Regarding economies of scale, in the 1980s, Japan's MITI model of economic development was discussed widely in China as a possible role model for development, but with the depression in Japan in the 1990s, attention switched to looking at South Korea's *Chaebols* (Cowling and Tomlinson, 2000). Regardless of which model was favoured at any one time, it was clear that success in the volume end of the automobile industry lay in economies of scale (Donnelly *et al*, 2010). In both Japan and South Korea, policy favoured concentrating strategic investment and production on a relatively small number of privately owned firms, who might be termed national champions (Thun, 2006). In Japan, this fitted in well with the cooperative nature of Japanese capitalism, its concomitant belief in rational planning and in the *Keiretsu* structure as much as it did in South Korea with the small number of family-owned *Chaebols* (Donnelly *et al*, 2010). In other words, there were high levels of industrial concentration in both countries (Huang, 1997; 2002).

In China, there was a distinct lack of coherent, strategic investment and a consequent failure to achieve economies of scale which in itself led to cost penalties (Huang,

1997; 2002; Donnelly *et al*, 2010). This was the result of a lack of focus in government policy planning as well as a lack of willpower to impose an espoused policy of rationalisation to weed out small inefficient firms and to concentrate production in larger units, which means that even at the time of writing the structure of the Chinese automobile industry remains relatively fragmented[7] (Donnelly *et al*, 2010).

Turning to institutional managements, in Japan, the MITI was able to push the automobile firms towards high levels of investment, productivity and quality, even if MITI has been criticised for perhaps working too much in the interests of Japan's large corporations rather than meet the wider aims of society (Bailey and Sugden, 2007). Similarly, South Korea's Economic Planning Board (EPB) had wide powers and its instrument, the Ministry of Commerce and Industry (MCI), had the authority to impose its decisions on the industry and enforce regulations (Donnelly *et al*, 2010). In other words, as events proved, concentrating decision making and enforcement in one single entity have been the key to the development of the automobile industry (Huang, 1997; 2002). Contrastingly in China, although the State Planning Board (SPB) and the Ministry of Machines and Industry (MMI) superficially look powerful institutions somewhat like their Japanese and South Korean counterparts, the SPB itself is unable to enforce regulations and policies across China as a whole due to the country's decentralised political management structure, which has ceded significant power to provincial governments over economic and industrial policy and the MMI falls into the same category (Donnelly *et al*, 2010). Focusing more on the MMI, it lacks autonomy and has to work with seven other ministries not all of whom share

[7] This issue is discussed further in chapter 5.

identical aims and objectives, and so its authority to impose strategic planning across the industry is relatively weak (Huang, 2002).

In essence the nature and impact of government interventions have differed between countries according to different government objectives and political economies; however, the extent and relative success of economic development has been strongly related to government interventions even if these differed. Johnson, Wade, Evans, and Woo-Cumings have shown how state-directed and purposive intent is transferred into successful state intervention in the economies of these three East Asian countries to guide market development and national corporate growth, rather than simply relying on market-led growth.

Japan's MITI has played a critical role in the country's industrialisation and economic catch-up, whereas South Korea has been driven by a vision of an advanced, diversified and national-owned industrial sector with an autonomous ability to undertake innovation and create its own MNEs. China, being the latest country to start industrialisation and economic reform, has gradually opened up its market through FDI. In doing so, the government has shown an ability to devise and implement interventions its welcoming yet controlling inwards FDI through joint ventures and by identifying which automobile firms should play leading roles in the 'Pillar Industries' to ensure that a viable Chinese automobile industry emerged (Wade, 1990). In sum all three East Asian governments discussed followed a decisive path in support their automobile industries.

It needs to be stressed for purposes of contextualisation that government-led industrialisation has occurred across much of the Asian region, not only in three countries selected, but also in others like Indonesia, Malaysia, Singapore, and

Thailand (Ashton and Sung, 1994). As Jomo (2001) observes, there is little doubt that the structural transformation and industrialisation of these economies had gone well beyond what would have been achieved by relying exclusively on market forces and private sector initiatives. It seems unlikely that it is possible in the modern world for any society to make a speedy and successful transition without a government that is some respects corresponds to this model of a developmental state (Leftwich, 2000; Beeson, 2004).

3. Globalisation

3.1 Definition

Globalisation is one of the most used, misused and confused terms (Asongu, 2007; Dicken, 2007). Like many concepts that have turned into popular discussion, globalisation is a highly contested topic which is subject to different interpretations (Weiss, 2002). The primary focus of this research is economic globalisation. Although there are other terms of globalisation such as 'political', 'cultural', and 'social', these are often difficult to separate. Indeed, "the economy itself is not some kind of isolated entity, not only is it deeply embedded in political, cultural and social processes and institutions but also these are often substantially imbued with economic values" (Dicken, 2007: 5). Globalisation is defined by UK's Department for International Development (DFID) (2000: 15) as:

> The growing interdependence and interconnectedness of the modern world, this trend has been accelerated since the end of Cold War. The increased ease of movement of goods, services, capital, people, and information across national borders is rapidly creating a single global economy. The process is driven by technological advance and reductions in the cost of international transactions, which spread technology and ideas, raise the share of trade in world production, and increase the mobility of capital. It is also reflected in the diffusion of global norms and values, the spread of democracy and the proliferation of global agreements and treaties, including international environmental and human rights agreements.

It is also defined by Stiglitz (2002: 9) as "the closer integration of the countries and the people of the world which has been brought about by the enormous reductions in the costs of transportation and communication, as well as by the breaking down of artificial barriers to the flows of goods, services and capital, and to a lesser extent, people across borders."

However, economic historians, such as Nayyar (2006), point out that in late nineteenth century up to 1914; the world economy also experienced a rapid increase in trade, capital, and labour[8] (Bairoch and Kozul-Wright, 1996; Nayyar, 2006). Nonetheless, what is clear is that the current forces driving the world economy are proportionately more significant than those in pre-1914 era with many more countries participating in the global economy (Weiss, 2002). Economic globalisation aims at realisation of global common market based on the freedom of exchange of goods and capital. Asongu (2007) identifies four main economic flows that characterise globalisation:

- Good and services, e.g. exports plus imports as a proportion national income or per capita of population
- Labour/people, e.g. net migration rates; inward or outward migration flows, weighted by population
- Capital, e.g. inward or outward direct investment as a proportion of national income or per head of population
- Technology, e.g. international research and development flows; proportion of populations using particular inventions such as: telephones, broadband, and automobiles

Of these four elements, technology is a particularly powerful force that drives the world towards becoming a more converging entity with communication, transport and

[8] This issue is discussed in the following section.

travel becoming much easier. Moreover, globalisation presents an opportunity in which improving technologies, new investment, better forms of work organisation and rising skill levels can raise living standards for the countries involved (Levitt, 1983; Sachs, 2005). Bairoch and Kozul-Wright (1996) point out that capital flows (e.g. FDI) are one of the most important elements in global economy. Strictly speaking, a truly global economy is one dominated by transnational firms and financial institutions, operating in the world market independently of national boundaries, national political objectives, and domestic economic constraints. Therefore, capital mobility, because of its potential to connect markets and production in a more direct, more complex, and much deeper manner than other cross-border flows, emerges as a highly significant influence on global economic integration.

3.2 Globalisation or internationalisation?

The nature of the world economy has changed dramatically especially since the 1950s. While the notion of globalisation enjoys a great deal of support, it is not without criticism. Major proponents of globalisation position such as Ohmae (1990; 1995) assert that we now live in a globalised world and that globalisation is the new economic order. Consumer tastes and cultures are allegedly increasingly homogenised and satisfied through the provision of standardised global products created by global corporations. Globalisation is, thus, claimed to be the natural order of affairs in today's technologically driven world in which time-space has been compressed. Moreover, Reich (1991: 3) states that:

> We are living through a transformation that will rearrange the politics and economics of the coming century. There will be no national products or technologies, no national corporations, no national industries. There will no longer be national economies, at least as we have to come to understand the concept. All that will remain rooted within national borders are the people who comprise a nation. Each nation's primary assets will be its citizen's skills and insights. Each nation's primary

> political task will be to cope with the centrifugal forces of the global economy which tear at the ties binding citizens together.

There are strong opponents of the above who argue, in fact, that globalisation is just a mirage. Gordon (1988) argues that we now live in an increasingly closed economy rather than open economy because the role of the state has grown substantially.[9] In addition, Hirst and Thompson (1999) and Hirst *et al* (2009) state that we do not have a fully globalised economy, we do have an international economy and national policy responses to it.

Dicken (1998) came to suggest that, although the world economy before 1913 was probably as integrated as it is today quantitatively, in some respects, the nature of that integration was very different from now qualitatively. He further explains there are undoubtedly globalising forces at work, but we do not have a fully globalised world economy. Globalisation tendencies can work without this resulting in the all-encompassing end state. To substantiate his point of view, Dicken (1998) distinguishes between processes of internationalisation and globalisation as follows:

- **Internationalisation** – involves the simple extension of economic activities across national boundaries. It is, essentially, a quantitative process which leads to a more extensive geographical pattern of economic activity
- **Globalisation** – involves not merely the geographical extension of economic activity across national boundaries but also, and more importantly, the functional integration of such internationally dispersed activities

According to Dicken (1998), both processes coexist and under some circumstances, the pervasive internationalisation and growing globalisation ensure that changes originating in one part of the world are rapidly diffused to others, and in addition, this in itself is also a very powerful force for furthering globalisation.

[9] The role of the state is discussed in part III of the literature review.

3.3 Globalisation or regionalism?

Although the late twentieth century was marked by a host of strategic challenges associated with a new phase in the internationalisation of the world's economies, the final decade of the twentieth century also marked another major change in the institutional framework of the world economy (Lung and Van Tulder, 2004). While most countries adhere to the call for globalisation and pursue multilateral strategies, whenever a country or group of countries feels their national interests are involved, it is often difficult to resist acting unilaterally (Nye, 2002; Lung and Van Tulder, 2004). Indeed, the second half of the 1990s has been described as the era of '*regionalism*' (Scott, 1997).

Regionalism is defined as the formation of inter-state associations or groupings on the basis of regions (Nye, 2002; Audet and Van Tulder, 2004). Today, there is hardly any country in the world that is not part of a regional integration initiative. "The WTO assesses that 43 percent of all trade is conducted exclusively within regional trade agreements in 2001. Moreover, nearly all of the WTO's 144 members had notified participation in one or more regional integration initiatives in 2002" (Lung and Van Tulder, 2004: 2). "Regionalism has become one of the dominant features of the global economy" (Dicken, 2007: 187). It often takes the form of regional integration agreements (RIAs). Countries collaborate with each other through RIAs to achieve specific economic and welfare goals. According to Mansfield and Milner (1999), RIAs have a two-sided quality: they liberalise trade between members whilst discriminating against third parties. However, this is not always the case, as a great deal depends on the nature of RIAs.

Table 3 shows four types of RIAs listed in order of increasing economic and political integration. While the RIAs that have been established over the years have been based on the principle of preferential trading arrangements, there are, in fact, several different types of negotiated RIAs which involve different degrees of economic and political integration.

Table 3 – Main characteristics of regional integration agreements

RIAs represent a wide variety of forms. Table 4 below outlines the most cotemporary expressions of macro-regionalism with the accession dates of all member countries. As we can see, the majority of RIAs fall into the category of free trade area and there are a small number of countries which belong to common market agreements. Finally, European Union (EU) is considered as the only group so far which comes close to being a true economic union. Economic regionalism appears to be growing rapidly as more and more countries integrated from different times shown in Table 4. Meanwhile, it also raises concerns on the interaction between globalisation and

regionalism. The question is: is economic regionalism going to erode the multilateral system that has guided the economic relations and promote protectionism and conflict?

Table 4 – Major regional integration agreements and participating members

Regional Group	Membership	Type
EU (European Union)	Austria (1995), Belgium (1951), Bulgaria (2007), Cyprus (2004), Czech Republic (2004), Demark (1973), Estonia (2004), Finland (1995), France (1951), Germany (1951), Greece (1981), Hungary (2004), Ireland (1973), Italy (1951), Latvia (2004), Lithuania (2004), Luxembourg (1951), Malta (2004), Netherlands (1951), Poland (2004), Portugal (1986), Romania (2007), Slovakia (2004), Slovenia (2004), Spain (1986), Sweden (1995), United Kingdom (1973)	Economic union
NAFTA (North American Free Trade Agreement)	Canada, Mexico, United States (1994)	Free trade area
MERCOSUR (Southern Cone Common Market)	Argentina, Brazil, Paraguay, Uruguay (1991), Venezuela (2006)	Common Market
AFTA (ASEAN Free Trade Agreement)	Brunei Darussalam (1984), Cambodia (1999), Indonesia (1967), Laos (1997), Malaysia (1967), Myanmar (1997), Philippines (1967), Singapore (1967), Thailand (1967), Vietnam (1995)	Free trade area

Source: Audet and Van Tulder (2004); Dicken (2007)

In order to solve this tension, Audet and Van Tulder (2004) present trade data of the eight RIAs (including the four in Table 2) for the period between 1984 and 1999 and for each region; the most recent country membership is taken and observed in order to avoid obvious effects such as the increase in intra-regional trade because of the change of members of a RIA. For example, for the EU, the 1984 data include the extra- and intra-regional trade of 15 member countries of EU while there were only 10

countries officially in the EU at that time. One figure measured is that of exports as a percentage of GDP of countries in each RIA and the figure is between 20-25 percent of GDP which can be characterised as fairly open, but which is declining compared with the beginning of 1980s.

The other figure taken into account is the degree of extra-intra-regional trade. The data show that in RIAs such as ASEAN and MERCOSUR, the volume of the extra-regional trade is around 2 to 6 times higher than the volume of the intra-regional trade. NAFTA balances its intra- and extra-regional trades, whereas in the EU intra-regional trade has consistently prevailed over extra-regional trade.

Audet and Van Tulder (2004) conclude that the trade data show that some regions have become more closed or less open, but this does not necessarily imply that regionalism represents a step away from globalisation. Both globalisation and regionalism can develop at the same time and the more closed nature of the regions implies that, over the course of the 1990s, the process of regionalism in trade has proceeded faster than the process of globalisation. The idea is supported by Dunning and Narula (2010), who conclude that regional integration is an important complementary development to globalisation.

All in all, the world we are living in may not be totally globalised; however, there is indeed a continued force of globalisation. Regionalism has become another phenomenon and statistics show that it can develop with globalisation at the same time. As for the automobile industry or probably any other industries in the world, the trend, brought by increasing capital mobility and advanced technology, has opened an almost limitless stage for any ambitious firms to explore. As a result, many firms step out of their own countries and seek more success by engaging in international trade,

first through exporting and then FDI, as has happened in the case of the Chinese automobile industry. The internationalisation of global automobile firms and their activities in different regional locations (e.g. EU, MERCOSOR, and NAFTA) are illustrated in chapter 4.

4. Foreign direct investment

4.1 Introduction

Previous discussions have studied the role of government and globalisation, this section turns to foreign direct investment (FDI). As China integrates itself increasingly with the world economy, inwards FDI has risen rapidly, not only in the automobile industry, but also other sectors (e.g. Finance, IT). Recently some indigenous firms (e.g. Geely, Chery) have started to invest abroad. These developments are consistent with the predictions of Dunning's investment development path model. Moreover, FDI brings an interesting perspective on how governments in emerging markets (e.g. Japan, South Korea, and China) can guide and mediate FDI to achieve industrialisation as discussed in the previous sections (Thun, 2006; Chin, 2010).

FDI is defined by the International Monetary Fund (IMF) (2003: 6) as "an investment made to acquire a lasting interest in firms operating outside of the economy of the investor. Further, in cases of FDI, the investor's purpose is to gain an effective voice in the management of the firm. The foreign entity or group of associated entities that makes the investment is termed as a direct investor. The unincorporated or incorporated firm branch or subsidiary, respectively, in which direct investment is made, is referred as a direct investment firm."

4.2 Reasons for FDI

FDI occurs when foreign firms set up or purchase operations in another country and may encompass new projects (e.g. JV), expansions of existing projects, and merger and acquisition (M&A) activity (UK Trade and Investment, 2006). It often involves the international movement of capital for specific investment purposes where the foreign investor gains control over the investment asset. There are a number of reasons which firms might decide to invest in a foreign country:

- To access new overseas markets (e.g. developing countries such as China and India)
- To gain access to scarce raw materials
- To take advantage of lower manufacturing and wage costs (e.g. outsourcing)
- To access new technology and skills (e.g. R&D cooperation)
- To gain access to new/different forms of work organisation and managerial expertise

Foreign firms bring new technologies, ideas and skills, employment generation as well as new investment to an economy – and there can be significant benefits for indigenous firms as suppliers and for local economies through the raising of quality standards, the upgrading of skills and new forms of work organisation. Take the Chinese automobile industry as an example, foreign automobile firms bring advanced technologies, enormous capital, and new management skills through JVs established with their Chinese partners. In return, they get access to one of the fast growing countries in the world and take advantage of lower manufacturing and wage costs, with a hope that the 1.3 billion populations would become their customers one day.

4.3 Measurement of FDI

There is no one precise method of measuring FDI, but most methods tends to focus either on the number of projects/jobs or the financial value. Financial measurements

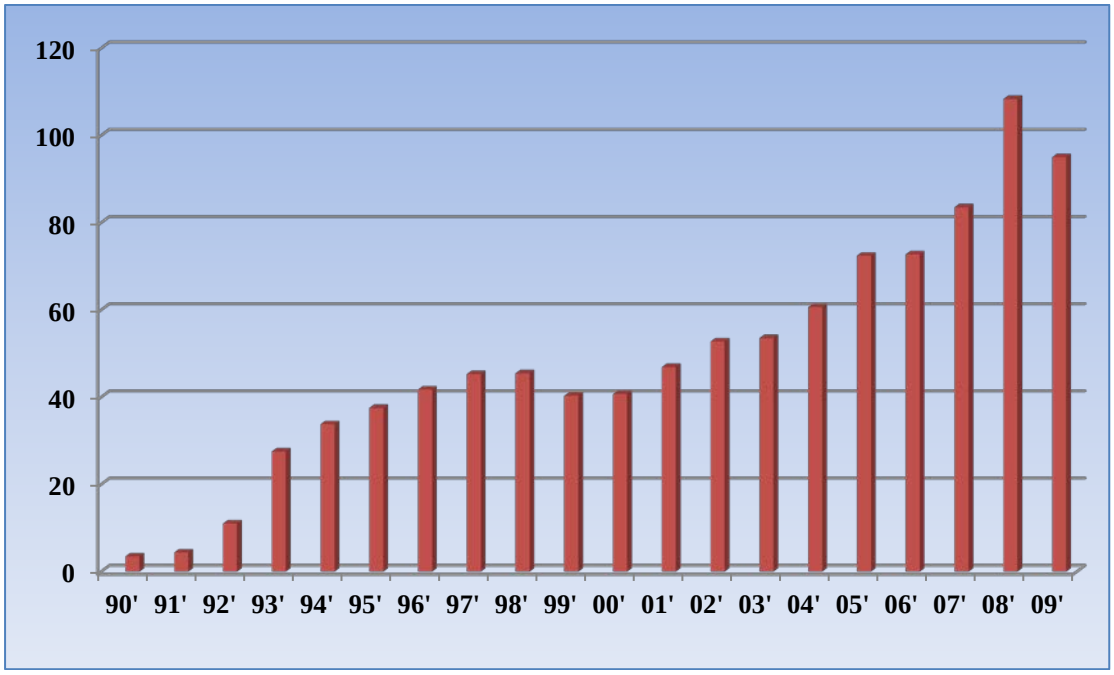
are either of stocks or flows. FDI flows are new investments by foreign firms made during a period of time (e.g. a calendar year). While much inward investment is included in FDI flow statistics, not all of it will be. For example, if an inward investor decides to expand its facilities in a foreign country, but uses the host country's finance, this would not appear in FDI flow statistics as it involves no inflow of money to that country (UK Trade and Investment, 2006). There are a number of organisations that produce FDI figures and statistics (e.g. UNCTAD, Ernst & Young), each giving a slightly different picture or analysis (e.g. UNCTAD's FDI statistics include M&A activity of foreign firms while Ernst & Young does not). For this research, FDI statistics are mainly taken from UNCTAD's comprehensive annual reports due to their high reliability and authoritativeness. These annual reports are often referred as the World Investment Reports (WIRs).

4.4 FDI inflows into China

With the beginning of the economic reform in the late 1970s, China started to become more integrated with the global economy, and as a result the amount of global FDI flowing into China has risen considerably since. Figure 2 shows the FDI inflows into China over a period of 20 years from 1990 to 2009. FDI inflows to China increased between 2000 and 2003, while the total global inflow of FDI declined, as did those to developing countries (World Bank, 2004). China accounted for 39 percent of the FDI to developing countries and it also accounted for almost 30 percent of the developing world's population in 2004 (World Bank, 2004). In fact, relative to GDP, China's performance in attracting FDI may look less extraordinary with FDI at 3.8 percent of GDP from 1999 to 2002 with nineteen developing countries doing better over the same period (World Bank, 2004). In addition, if adjusted for the round-tripping of FDI through Hong Kong, China's performance looks even less striking (World Bank,

2004). Therefore, China is far from being fully exploited and huge potential for future development exists.

Figure 2 – Word FDI inflows to China,[10] 1990 – 2009 ($bn)



Source: adapted from UNCTAD (2010)

With China's continuous market reform and as the economy is becoming more integrated with the global economy, FDI is likely to increase. From 2005, FDI inflow into China began to rise and peaked in 2008 by exceeding $100 billion despite the global financial crisis, accounting for 6 percent of the total global FDI inflow (UNCTAD, 2010). The global financial crisis of late 2008 did not seem to have a significant damage on the country's performance in 2009. The country still received FDI inflows of $95 billion in 2009, accounting for 8.5 percent of the world total FDI inflows (UNCTAD, 2010).

Talking about kinds of FDI to China, broadly speaking, there are two major categories of FDI to China: one type consists of firms that relocate manufacturing operations to China in order to take advantage of low-cost labour and export the finished product

[10] Excludes Hong Kong, Macau, and Taiwan.

(e.g. textiles), the central government normally decentralises control over investment in this form and does little to control the inflow; the other type of FDI is that foreign firms are seeking access to the Chinese marketplace and its potential 1.3 billion consumers (Thun, 2004; 2006; Chin, 2010).

Thus, the motivation of foreign firms of the second type is accessing a particular market rather than a general desire to cut costs, and investment of this sort tends to be more valuable to the host government. It also tends to be in exactly the sort of technology- and capital-intensive industries that the Chinese government would like to cultivate (e.g. automobiles, telecommunications, and petrochemicals). Not surprisingly, the central government will do everything possible to take advantage of its leverage (Thun, 2004; Liu and Dicken, 2006). While the small investments are allowed to fly below the radar screen of the central government, the central government has taken care to regulate and control the investment flow when it deems necessary (Thun, 2004; Liu and Dicken, 2006; Chin, 2010).

In response to concerns that foreign firms are being allowed to purchase key state assets, the central government issued ‘The Industrial Catalogue’ for guiding foreign investment in 1998, which divided FDI into four categories: encouraged, permitted, restricted, and prohibited (Thun, 2004). The intent was to insure that foreign investment is compatible with government industrial polices, and that Chinese governments would retain control in the ‘pillar’ industries (Nolan, 2001; Liu and Dicken, 2006). In ‘restricted’ categories (e.g. automobile), limits were placed on equity stake of the foreign partner, in ‘prohibited’ categories (e.g. aerospace), foreign participation was banned completely (Thun, 2004).

4.5 Foreign direct investment theories

The current globalisation of markets and internationalisation of firms are a phenomenon of growing interest in current research. Firms' FDI as engagement in international business is viewed as rational economic consideration (Martin and Salomon, 2003). Firms choose their entry methods by evaluating the cost of different transactions and selecting the mode that minimises overall costs (Buckley and Hashai, 2009). Thus, FDI is a complicated decision-making process since firms are often unfamiliar with the environment of foreign markets. Fortunately, there are a number of theories related to FDI that have been particularly influential. In this section, the following theories are discussed:

- Hymer's specific advantage theory
- Vernon's product life cycle theory
- Buckley and Casson's internalisation theory
- Dunning's eclectic paradigm
- Dunning's investment development path

The specific advantage theory was chosen because it was one of the earliest FDI theories, developed by Stephen Hymer who clearly sees the growth of firms on an international scale as a logical progression in economic activities. The way Hymer viewed the role of MNEs in international business was dynamic and his theory was fundamental to the development of international business theory (Buckley, 2006). However, Hymer's theory is not without drawbacks, the three following scholars (Raymond Vernon, Peter Buckley, and Mark Casson) are therefore introduced with their works as they tried to solve the gaps in Hymer's work via different aspects. Finally, Dunning's eclectic paradigm probably offers the most holistic description of the conditions for foreign market-servicing strategy of firm using ownership, location, and internalisation advantages as explanatory variables (Buckley and Hashai, 2009). Moreover, the investment development path conceptualises a comprehensive picture

of FDI, from inward to outward FDI. Now, we are going to analyse individual contributions.

4.5.1 Hymer's specific advantage theory

Before the 1960s, "there was little interest in understanding the reasons for the MNE or the nature of its operations" Dunning and Rugman (1985: 228). The explanation of international capital movements relied exclusively on portfolio flows which assume the international market is in a state of perfect competition and there are no transaction costs. Therefore, capital moves in response to interest rate changes and moves from one country where the interest rate is low to where it is high until the interest rates are equal everywhere (Hymer, 1976; Dunning and Rugman, 1985). Based on this assumption, capital is just transacted from buyers to sellers and there is no role for the MNE (Dunning and Rugman, 1985).

However, it would be just too simple and ideological to assume the world functions under perfect competition and capital movements are based solely on interest rate differences as there are, indeed, many risks and uncertainties in the international business world. Hymer sensed that MNEs could not exist in a theoretical world of perfect competition (Teece, 2006). Hymer broke up the traditional explanations on international trade and investment based on interest rate differences and instead sought for answers by focusing on the role of MNEs.

A firm investing overseas often faces additional costs compared to a domestic competitor. The costs of international operations are normally of two kinds: 1) fixed and non-recurring such as: languages, lack of familiarity, tradition, and culture; 2) recurring costs such as discrimination by governments, local consumers and suppliers (Yamin, 1991). So, the question rises here, given all these costs associated with

international operations, why would firms still want to invest in a foreign country? Or perhaps more appropriately, under what circumstances firms might find it profitable to invest in a foreign country?

Based on the study of US firms' international operations, Hymer (1970; 1976) argues that a firm possessing a specific advantage in a product market or factor market has an added incentive to engage in international operations. The firm's advantages can be the ability to produce at a lower cost than other firms or its possession of better knowledge or control of a more efficient production function or better distribution facilities or a differentiated product (Hymer, 1976). Before Hymer's theory, FDI was considered as a firm's investment in a portfolio of assets, and Hymer argued that it is wiser to view FDI as industrial phenomenon rather than simply as a portfolio of assets.

Hymer's theory has found considerable support. For instance, Miller and Weigel (1972) studied US firms' investment in Brazil and found that investing firms had an advantage over local firms in the form of R&D intensity or capital intensity prior to entry. Lall (1980) finds that a product differentiation advantage helped US industry promote FDI. In the automobile industry, Ford used FDI to globalise its market reach: it pioneered US overseas direct investment through factory building in the UK in 1911 and 1931; reinvested in existing operations (Bridgend factory in Wales in 2000); acquired Aston Martin (1987), Jaguar (1989), Volvo (1999), and Land Rover (2000); and entered China through JVs with stated-owned Chang'an in 2001 (Gomes *et al*, 2010; Collis, 2011). Advanced core technologies, high organisation and management capability, excellent research and design (R&D), brand reputation, global distribution network are normally the specific advantages possessed by foreign automobile firms entering countries like China.

However, the theory is not without criticism. First of all, it does not probe hard enough on any of these advantages possessed by a firm, nor consider whether all advantages were equally suitable as a basis for international operations (Hymer, 1976; Yamin, 1991; Teece, 2006). Moreover, the difficulty with the advantage approach is that although it explains firms with certain advantages are more likely to engage in FDI, it does not illustrate why firms choose FDI instead of other entry methods such as licensing and exporting (Buckley, 2006; Buckley and Casson, 2009). Nevertheless, Hymer's work opened a new perspective on the study of FDI. Today, it is widely recognised that Hymer's theory is primarily about the possession of specific advantages by the MNE (Horaguchi and Toyne, 1990). Hymer is regarded as a seminal figure in the establishment of FDI theory, which emerged from his doctoral dissertation[11] (Hymer, 1976). He is "the first to address the questions of 'why MNEs' and 'why FDI', and this conceptual contribution arguably established Hymer as the founder of the modern theory of the MNE and FDI" (Dunning and Pitelis, 2008: 167).

4.5.2 Vernon's product life cycle theory

Vernon's original product life cycle (PLC) theory bolstered the specific advantage theory of Hymer because it furnished a plausible solution to a problem that Hymer's theory did not resolve, which is why firms with certain advantages decide to engage in FDI rather than through other methods like exporting. Vernon developed PLC theory by adding a spatial dimension in order to explain a shift from exporting to FDI.

Vernon (1966) uses a microeconomic concept to explain a macroeconomic phenomenon. He points out that in addition to immobile natural and human resources, the propensity of firms to engage in international operation also depended on their

[11] The thesis was written in 1960, and published in book form in 1976 (Buckley, 2006).

capability to upgrade these assets or to create a new one, notably technology capacity. Vernon emphasised the role of multinational firms in the international transfer of technology (Antras, 2005). Vernon (1966) states that exporting may be appropriate at the earlier stage of a PLC, but perhaps as the product is getting technically old, the firm should shift from export to FDI to maintain production and try to defend its market position from a different vantage point. Therefore, the theory suggests that FDI choice correlates with product life cycle stages.

In Vernon's view, when a new product is launched in the home country after perhaps years of R&D. Initially, the demand of this product may be low before making an impact in the market and earning a satisfactory rate of return. Either simultaneously or subsequently, the product may be launched successfully in countries with similar economic attributes (e.g. labour costs, income per capital, and exchange rate) where the product is delivered through common trade. Sooner or later new competitors may enter the market and eventually the product becomes standardised. Faced with competition, the firm that first introduced the product might then try to minimise production costs and transfer part of production to countries with lower labour costs and so extend the life cycle of an old product or even technology. In the last stage, the product becomes technologically old and as the demand and profits drop, the introducer may transfer all of their production to an area with lower production costs but with sufficient demand to allow production to continue. Why is it reasonable to think that when a product reaches its maturity (when it becomes standardised), there is a market opportunity for it in a foreign country? Vernon (1966: 203) gives the explanation:

> At an advanced stage of standardisation of some products, the less-developed countries may offer competitive advantages as a production location. Highly standardised products tend to have a well-articulated,

> easily accessible international market and to sell largely on the basis of price, then it follows that such products will not pose the problem of market information quite so acutely for the less-developed countries. This establishes a necessary if not a sufficient condition for investment in such industries.

The form of entry into foreign markets depends upon the life stage of the traded product. Only when the appropriate designs have been worked out, and the production techniques have been standardised, is the locus of production shifted to the less developed countries where labour costs are lower (Antras, 2005). When the maturity stage is reached, the firm loses market share and feels the need to go abroad and establish production in other countries. In Vernon's formulation of a product's life cycle, the shift of production to less developed countries is a profit-maximising decision from the point of view of the innovating firms (Antras, 2005). The theory recognises the continual advances against a firm's competitive advantage based on new or continually improved competition (Vlysidis, 2008). It is considered as an important advancement over Hymer's theory.

Vernon's theory can also find empirical support regarding the Chinese automobile industry. For example, VW introduced a technologically upgraded Santana, whose European production ended in 1988, as an entry model for its Chinese operation in 1985 (Collis, 2011). With the support from Shanghai city council including supplying appropriate skilled labour and setting up a taxi firm to meet the growing demands of tourists and the business community, the German firm enjoyed early success. In contrast with VW's success, Peugeot's initial investment in Guangzhou failed because the vehicles assembled were the Peugeot 504 and 505 models whose production had already been discontinued in France and, being old fashioned hatch backs, did not appeal to Chinese consumers, and because of their large size, the vehicles were

considered unsuitable for urban driving (Donnelly and Morris, 1997). In the end Peugeot withdrew from China in 1997 (Loubet, 2003; Thun, 2006; Collis, 2011).

Although the PLC theory has made crucial contributions to FDI theory and the nature of a firm's competitive advantages, there are a number of constraints. For example, the theory appears to be confined mainly to only highly innovative industries or MNEs with big spending power in technology, which not every firm can afford. In addition, Buckley and Casson (1976) argue that the theory underestimates the firm's decision-making process in international operations. International operations have become too complicated to be explained neatly by the theory. For example, new products and facilities are now often introduced almost simultaneously in many countries. Finally, the theory may be outdated today as the information and technology can now be widely-spread through global forces such as the internet.

4.5.3 Buckley and Casson's internalisation theory

The internalisation theory was conceptualised by Buckley and Casson (1976), who attempted to explain a growth of MNEs in the US and Britain after the WWII. The theory provided an alternative solution to Vernon in answering Hymer's omission of the advantage theory which is why firms with certain advantages prefer to engage in FDI rather than through other methods of exporting and licensing. For FDI to take place there must be internalisation advantages and that is why JVs and even wholly foreign-owned enterprises (WFOEs) may look more attractive (Buckley and Casson 1976; 2009; Vanhonacker, 1997). Buckley and Casson (1998; 2009) also argue that firms are engaged in FDI whenever they perceive that the net benefits of joint ownership of domestic and foreign activities, and the transaction arising from them, are likely to exceed those offered by external trading relationships. Thus, MNEs

operate their activities internally which allow firms to exploit their firm-specific advantages, and the ownership of such advantages are developed through internalisation which acts as a governance mechanism (Rugman and Verbeke, 2008).

The key constraints of this theory are: firstly, it is difficult to estimate a perfect or precise cost-benefit point which makes the testability of the models uncertain; secondly, internalisation theory offers a fairly straight-forward answer, as long as the transaction costs and coordination costs of using external markets in the exchange of intermediate products, information and technology exceed those incurred by internal hierarchies, then it is suggested that a firm should engage in FDI; however, this has not gone unchallenged, because it ignores other functions which a firm may perform, other than those which are transaction costs related (Dunning, 2000). For example, many cross border M&As are undertaken to gain new resources or to access to new capabilities, markets, or to gain market power, or to forestall or thwart the behaviour of competitors, and all of these activities and objectives of firms fit less comfortably with the perspective of transaction costs (Dunning, 2000). Dunning (2000) further explains that this does not destroy the validity of internalisation theory and, indeed, suggests that the contents of the theory should be widened to incorporate all costs and benefits associated with corporate activities, and not only those which are transaction related. Finally, the theory suggests a firm engages in FDI when costs are not more than the benefit of internalisation, which fails to explain why some firms nowadays are prepared to make a loss at the beginning when they enter a foreign market.

4.5.4 Dunning's eclectic paradigm

Previous FDI theories analysed tackle different aspects and determinant factors of FDI. Some focus on identifying and explaining motives of FDI and others analyse the

behaviour of FDI. However, one attempt to integrate previous factors into a single scheme is Dunning's eclectic paradigm (Koh, 2005). The theory describes conditions required for a firm to engage in FDI which depend on the possession of ownership-specific (O), location-specific (L), and internalisation (I) advantages, and it is also referred as OLI model (Dunning, 1981)

The O advantage relates to sustainable specific advantages possessed by MNEs on inter-firm relationships over host nation firms in markets they serve or are contemplating serving. It aims to explain 'why' of MNEs activities and is strongly linked to Hymer's theory of specific advantages analysed previously (Dunning and Lundan, 2008). The L advantage is concerned with 'where' of MNEs activities (e.g. resources availability, costs of resources) while the I advantage emphasises on 'how' of MNEs activities by focusing on reducing transaction and co-ordination costs, and it may also reflect either the greater organisational efficiency of hierarchies or their ability to exercise monopoly power over the assets under their governance (Dunning and Lundan, 2008). The I advantage is firmly related to Buckley and Casson's theory of internalisation discussed earlier (Dunning, 1993; Canabal and White, 2008). It is considered that the higher the OLI advantages, the more integrated entry modes firms will prefer (Brouthers *et al*, 1999). Now, let us analyse each of them in detail.

4.5.4.1 Ownership-specific advantages

The O advantage is a firm's characteristic and it is manifested by "firm-specific ownership of intangible assets such as technological or marketing knowledge, as well as superior managerial capabilities to control and coordinate international transactions" (Buckley and Hashai, 2009: 59).

Since the 1960s, the extant literature has come to identify three main kind of O advantages (Dunning, 2000). Firstly, according to Bain (1956), Caves (1971; 1982), and Porter (1980; 1985), a firm should own or exploit some kind of monopoly power. These advantages can be presumed to create entry barriers to final product markets by firms not possessing them. Secondly, a group of scholars, such as Barney (1991), Cantwell (1994), Conner (1991), Conner and Prahalad (1996), Dosi *et al* (1988), and Saviotti and Metcalfe (1991), suggest that a firm should hold unique and sustainable resources which normally are referred to as superior technologies of that particular firm relative to its fellow competitors. These advantages can be used to create entry barriers to intermediate product market by firms not possessing them. Thirdly, the competencies of the managers are regarded by Bartlett and Ghoshal (1989; 1993) and Prahalad and Doz (1987) as another important element of the O advantages. For example, given the same corporation, assets, and resources, managers with different levels of competencies may run the firm differently.

4.5.4.2 Location-specific advantages

The L advantage is a country-specific characteristic and is represented by comparative cost of country-specific input (e.g. materials, labour) accessible by MNEs or by the cost of trade barriers. Porter (1998a; b) has gone as far as to say that in the modern economy, anything that can be moved or sourced is no longer considered to be a competitive advantage and the real advantages today are things that cannot be moved or created somewhere else. This indicates that location choice of firms has become a more critical strategic variable and both national and regional governments should pay more attention to the fostering of immobile complementary assets and cluster[12]

[12] Industrial cluster is discussed later in the chapter.

related public goods as part of their policies to attract and retain mobile investment. Therefore, in terms of location factor, motives for FDI have changed from exploiting an existing O specific advantage of an investing firm to more protecting or augmenting that advantage by the acquisition of new assets or by a partnering arrangement with a foreign firm (Dunning, 1998).

In the case of the Chinese automobile industry, the L advantages are marked as foreign automobile firms that entered China are increasingly seeking locations which offer the best economic and institutional facilities (Dunning, 1998; Zhao and Zhu, 1998; Dunning and Narula, 2010). Moreover, major car production is largely located alongside the country's eastern coastal areas (e.g. Shanghai, Guangzhou) as well as in traditional industrialised cities (e.g. Changchun, Chongqing) where good infrastructures (e.g. transport, labour skill) are provided (Liu and Dicken, 2006; Thun, 2006).

4.5.4.3 Internalisation advantages

When investing in a foreign country, the investing firm will often face the choice of either 'going it alone' or engaging in some kind of partnership with a local firm so that the O advantages of the investing firm can be effectively deployed. "Internalisation is a transaction that attributes and applies to the case where the MNE prefers to exploit its ownership advantage internally rather than by licensing or any other collaborative modes" (Buckley and Hashai, 2009: 59). With internalisation, investing firms can possess O advantages and transfer them across national boundaries within their own organisations rather than selling them, which indicates that firms may not always perceive the best location for transacting intermediate goods or services, but certainly in the exploitation of specific intangible assets, firms

often have a choice between using the external market or not (Dunning, 1998). For example, with firms which are involved in culturally sensitive production processes or outputs, or first time investors seeking to supply markets in unexplored territories, it is believed that transaction costs may be lower if a partnership with a local firm is agreed[13]; however, as with any form of foreign investment, much will depend on the host government's attitude and policies (Dunning, 2006).

All in all, the three strands in the explanation of international production interact with each other, and none of them on its own is both a necessary and a sufficient condition to explain international production. Indeed, a three-legged stool is only functional if all three strands are evenly balanced (Dunning, 1998). Criticisms have also been made that the eclectic paradigm is not sufficiently theoretical in analysing relations between the three advantages (Koh, 2005).

Moreover, it has been suggested that the factors/variables concern with the OLI advantages in Table 3 are too numerous to be encompassed within one paradigm (Devinney *et al*, 2003; Koh, 2005). In addition, the OLI paradigm is also criticised for its failure to account for the role of managers in foreign market entry process (Devinney *et al*, 2003). Finally, Dunning (2000) explains that the purpose of the paradigm is not to offer a full explanation of all kinds of international operations but to act as a methodology. Dunning then avoids the term 'eclectic theory' as it was first called and in later work refers instead to the 'eclectic paradigm' or 'analytical framework' (Dunning, 2000; Koh, 2005).

[13] There are other scholars, such as Kotabe and Helsen (2004), who argue that for first time investors, exporting is often seen as a good strategy for testing the market.

4.5.5 Dunning's investment development path

The emergence and growth of outward direct investment by several third world countries over the last two decades enables us to examine more closely the relevance and validity of Dunning's eclectic paradigm framework and his subsequent contribution to the discussion via an investment development path[14] (IDP) (Dunning 1986; Koh, 2005). The IDP considers the relationship between the development path of countries and their position in terms of inward and outward FDI (Koh, 2005). It was first composed of four stages and later on, a fifth stage was introduced (Dunning, 1981; 1985).

In stage 1, a country's firm may be unable to engage in outward investment because it cannot generate O advantages or these advantages may be best exploited via other routes (e.g. exporting). This may be due to domestic markets not being large enough or there is an undeveloped or inappropriate commercial and legal framework; transport and communication facilities may be inadequate and there may also be political instability as well as the lack of an educated workforce (Dunning, 1982; 1988).

In stage 2, inward investment begins to emerge as the country's domestic market increases. At this point, there are basically two types of inward investments. The first may well be manufacturing investment in low value products such as textiles and clothing, which will be initially attracted to large populated developing industrialising countries where labour costs are low. The second, it is likely to be in higher value-

[14] IDP was born at a point when Dunning was presented at a conference on third world MNEs on the relevance of the eclectic paradigm to understand the emergence of outward FDI from developing countries (Dunning, 1986).

added investments (e.g. automobile, finance) which will exploit the country's national resources and potential markets (Dunning, 1981; Thun, 2004).

In stage 3, the country's net inward investment per capital now starts to fall. This may due to the original O advantages of foreign investors being eroded (e.g. expiry of contract); or because indigenous firms improve their competitive capacity or even generate their own O advantages (Dunning, 1982). This stage marks the beginning of a country's international direct investment and urges its own firms to invest abroad in those sectors where their comparative O advantages are strongest but its comparative L advantages are weakest (Dunning, 1982).

In stage 4, a country is a net outward investor which means its investment flows abroad exceed those of foreign-owned firms in its own country. This reflects strong O advantages of its firms and/or an increasing propensity to exploit these advantages. The tendency towards more internalisation is related to the growing size and geographical diversification of home country firms (Dunning, 1982). Clearly not all countries can be in the Stage 4 of IDP as the world's outward investment should be equal to that of inward direct investment at a given moment of time (Dunning, 1986; 1988).

In stage 5, two things normally happen. First, the O advantages of a country's MNEs become more firm-specific; and second, the locational decisions by both foreign and domestic MNEs become less based on the comparative advantage of factor endowments (e.g. labour costs), and more on the strategies of competitors supplying regional or global market, the desire to fully exploit the economies of large-scale production, the need to reduce market instabilities and uncertainty, and the incentive to reap the giants from integrating related activities over space (Dunning, 1988).

Dunning's development path, incorporating the notion of stages of growth, is relevant to China because the investment development path identifies a number stages through which a country might pass. According to the analysis, the Chinese automobile industry is currently placed somewhere between Stages 2 and 3. After three decades of rapid growth led by the government since 1980s, we have seem almost all the world's major automobile firms establishing JVs in China (e.g. Beijing Hyundai, Shanghai VW) to exploit the country's potential. On the other hand, it also marks the beginning of some indigenous automobile firms like Chery and Geely to invest abroad. Details of the latter will be examined as case studies in chapter 6).

4.5.6 Dunning and joint ventures

A joint equity venture is defined by Dunning "as any long-term alliance which falls short of a merger and in which two or more economic entities own a sufficiently large proportion of equity capital to give each of them some degree of control or influence over key areas of decision taking. A cross-border joint venture is one in which economic entities from at least two countries are involved" (Dunning, 1993: 237). There are a number of motives underlying JVs. These are market seeking, resource seeking, efficiency seeking, and strategic asset seeking. Efficiency seekers aim to benefit from economies of scale and scope and risk diversification. Resource seekers look to acquire resources at a lower cost than could be obtained in their home country. Market seekers invest in a particular country in order to be able to supply goods or services into that market. Finally, strategic asset seekers are engaged in FDI in pursuit their long-term strategic objectives.

One specific reason why JVs may be the mode of entry undertaken is because, as in the case of the Chinese automobile manufacturing industry, a host government may

not allow a foreign firm complete ownership of a local firm. In such a case, a JV "may be the second-best option open to it" (Dunning, 1993: 238). It is evident that foreign automobile enterprises have been willing to accept this mode of FDI entry in order to access the Chinese market (Collis, 2011).

For developing countries more generally, Dunning (1991) has provided evidence on the role of governments in affecting the level of equity participation by foreign investors. He examined the impact of the liberalisation of foreign investment regulations on the level of equity participation held by foreign investors of US origin between 1997 and 1982. He also found that, in the case of developing countries, the main factor in explaining the fall in the proportion of JVs to wholly owned local firms was a relaxation of government imposed rules on the share of foreign ownership.

4.5.7 The costs and benefits of FDI

Theoretically there are numerous host country benefits and costs which may be associated with FDI. Direct effects comprise additions to capital stock, to employment and to exports whilst indirect effects arise from input purchases from local firms (Collis, 2011). Dynamic impacts include technology spill-over and demonstration effects in management and working practices whilst longer term benefits may include agglomeration effects from second wave foreign investors and the reinforcement or diversification of the industrial structure of the host economy (Collis, 2011). Costs to the host economy may include the direct costs of financial inducements to attract foreign investment, indirect employment effects through the loss of jobs in indigenous firms and, in the long term, the effects of factory closures by MNEs when they withdraw their investment (Collis, 2011).

Liu and Dicken (2006) use the concept of 'obligated embeddedness' to explain how FDI can be made to contribute to local or national economic development through both direct and indirect spin-offs, including backward linkages with local suppliers. They show that "foreign direct investment in the automobile industry in China is a type of market-led and embedded investment which is characterised by joint ventures and the follow-up network configurations" (Liu and Dicken, 2006: 1229) and "that the establishment of local supply linkages of automobile multinationals in China is mainly the outcome of obligated embeddedness" (Liu and Dicken, 2006: 1243). Moreover, the finding of Buckley *et al* (2007) that inward FDI played a positive role in increasing labour productivity in China's automobile industry implies that Chinese government policies to attract FDI have resulted in positive benefits and that the government should continue to promote FDI in the Chinese automotive industry.

5. Industrial clusters

5.1 Clusters and the automobile industry

In recent years, there has been a growing interest in the role of location in the global economy (Martin and Sunley, 2003; Depner and Bathelt, 2005; Cruz and Teixeira, 2010). With regards to automobile industry, production and employment are typically clustered in one or a few industrial clusters within countries (e.g. Birmingham-Coventry-Oxford nexus in the UK, Detroit-Michigan-Ohio cluster in the US) [15] (Lecler, 2002; Coe *et al*, 2004; Sturgeon *et al*, 2008; Yeung, 2008). Due to scope and scale of the industry, clusters can lower the costs such as production, distribution and it is even true for countries like China with its extraordinary size and diversity.

[15] The discussion on automobile clusters in China is viewed in detail in chapter 5.

This interest in the local dimension is directly related to globalisation discussed earlier, such as the external economies of scale that co-located firms may accrue from the expansion of markets and trade liberalisation (Pyke and Sengenberger, 1992; Commission of The European Communities, 2008). These clusters specialise in specific aspect of the business such as vehicle design, final assembly, and components. Compared with foreign automobile clusters which emerged naturally as the industry developed, clusters in the Chinese automobile industry only started to emerge from the mid 1990s, and the development of clusters has been strongly supported by local and national governments (Depner and Bathelt, 2005). Foreign automobile firms were encouraged by governments to enter the cluster via JVs established with local partners. Thus, the nature of the cluster itself is different, automobile clusters in China are primarily FDI based where foreign automobile firms (e.g. JVs) play the role of anchor firms in the cluster (Liu and Dicken, 2006; Kuchiki, 2008a).

5.2 Types of clusters

During the 1990s the abundance of specialised and popular literature on industrial clusters gave an unprecedented relevance across a range of areas; however, there was also a degree of confusion over what it meant by industrial clusters[16] (Morosini, 2004). In particular, there has been a tendency to use terms such as 'agglomeration', 'clusters', 'new industrial areas', 'embeddedness', 'milieux', and 'complex' more or less interchangeably with little concern for organising structure which are far from straightforward and should be different for each (Gordon and McCann, 2000; Cruz

[16] For example, Morosini (2004) indentifies clusters as knowledge interaction within should be randomly rather than deliberately and socially constructed; therefore, according to his definition, special economic zoos and industrial districts which set up by the government particularly to boost the economy are not clarified as clusters.

and Teixeira, 2010). Gordon and McCann (2000) offer a clear and precise review of three major models of industrial clusters:

- Classic model of pure agglomeration
- Industrial complex model
- Social network model

In the first model, clusters are developed through the natural agglomeration of economic activities (Yeung, 2008). The agglomeration economies in these clusters usually originate from a local pool of specialised labour, economies of scale, and maximum flow of information and ideas (Krugman, 1991; McCann and Shefer, 2003). Coventry was an example of this in the early years of the UK automobile industry (Donnelly and Thomas, 2000). Local firms are able to hire workers and adjust their labour employment levels in response to market conditions. In addition, the area experiences economies of scale in employment of particular capital infrastructure. However, this pure model of agglomeration presumes "no form of cooperation between firms beyond what is in their individual interests in an atomised and competitive environment" (Gordon and McCann, 2000: 517). The system rarely has any particular observable organisation or inter-agent loyalty; therefore, any firm may enter and exit the cluster (Gordon and McCann, 2000; Yeung, 2008). Meanwhile, none of the resources within the cluster is internal to a particular firm, but each is external to all the firms; thus, it is only the issue of geographical proximity which is the common element determining their being grouped together under the general heading of external economies of industrial clustering, more commonly referred to as 'economies of agglomeration' (Gordon and McCann, 2000). Regarding the Chinese automobile industry, this model fits well with the state-owned firms of the 1980s; for example, in Changchun, the local Changchun Motor Corporation had 39 component

suppliers in close proximity and SAW in Wuhan province had thirty four (Donnelly and Morris, 1997).

The second type of industrial cluster model is characterised by sets of identifiable and stable relations among firms which are in part manifested in their behaviour. The relations are conceived primarily in terms of trading links, and it is these patterns of sales and purchases which are seen as principally governing their locational behaviour. This type of industrial cluster is essentially static and predictable in nature, and it primarily concerned with cost-saving in relation to production links. All firms in this cluster will have made substantial capital investments in order to set up the appropriate trading links, and these are normally in the form of fixed-capital expenditure. Clusters of this type are practically common in chemical, pharmaceutical, and automobile industries throughout the world (Yeung and Wang, 2000; Dicken, 2007). For example, VW in Shanghai has not only local firms nearby but also European suppliers (e.g. Bosch) located within the area (Depner and Bathelt, 2005).

The third model of industrial clusters refers to the important role of local networks of inter-personal relationships and trust in facilitating the coming together of firms in particular locations (Yeung, 2008). These interpersonal relationships depend crucially on interpersonal trust, and the informality of these relationships is viewed as being a potential strength rather than a weakness, even when contracts are loosely defined (Donnelly and Hyry, 2004; Karlsson *et al*, 2005). “The strength of these relationships is described as the level of ‘embeddedness’ of the social network” (Gordon and McCann, 2000: 520). The example of this type of automobile cluster can be found in Japan’s *Keiretsu* (e.g. Toyota city) as discussed earlier, firms usually offer long term contracts with life-time employment, health care, and family settlement to their staffs

and demand a high degree of trust and loyalty (Cowling and Tomlinson, 2000; Dyer and Chu, 2000). The social network model differs from the pure agglomeration model in that there is a belief that such clusters reflect not simply economic responses to the pattern of available opportunities and complementarities, but also an unusual level of embeddedness and social integration. Finally, although these three forms of industrial cluster are different in terms of theories and logic behind them, in actual practice, clusters may contain elements of more than one type. At the time of writing it is hard to find examples of the social network model in the Chinese automobile industry.

5.3 Cluster theories

In this section, three scholars' works are selected to review industrial clusters including: Markusen's industrial districts, Porter's diamond model, and Kuchiki's flowchart model. Reasons for choosing these three models are: 1) both Markusen's and Kuchiki's approaches were established on the platform of the automobile industry. For example, Markusen's work is based on the research from the US automobile industry while Kuchiki's flowchart is designed exclusively to illustrate the automobile clusters in Guangdong province of China, indicating a great relevance to the Chinese automobile industry, thus to the thesis; 2) Porter's notion of industrial or business clusters has rapidly become the standard concept in the world (Markusen, 1996a; b; Martin and Sunley, 2003; Kuchiki, 2008a; b).

5.3.1 Markusen's industrial districts

Markusen (1996a) introduced several different forms of industrial organisation within the definition of an industrial district. She argues that the emergence of 'sticky places' in a 'slippery space' characterised by dramatically improved communications, increasingly mobile production factors and firms may be related to numerous variants

of industrial districts (ID). The ID theory (Figure 3) suggests that direct interdependence between firms, through market mechanism, generates external spill-over effects, which are then exploited as agglomeration economies by the firms within a particular cluster (Cowling and Tomlinson, 2000). Examples of these agglomeration economies include not only technological factors, such as labour market pooling and the sharing of local infrastructure, but also the diffusion of information such as new technology and advances in knowledge (Krugman, 1995). By generating these agglomeration effects, local industries reduce their costs and achieve increasing returns to scale.

The first type of ID owes its basic popularity to Alfred Marshall, who first noted the external economies due to the co-location of small firms, and to several scholars that resuscitated his insights to explain the superior economic performance of regions such as Silicon Valley in the US (Pietrobelli and Guerrieri, 2004; Cruz and Teixeira, 2010). The ID concept emphasised the industrial atmosphere, the local long-term socio-economic relationships among local firms, involving trust and a blend of competition and collaboration, and the role of local institutions (Pietrobelli and Guerrieri, 2004). As noted above, this appears to fit in with the structure of the state-owned assembly and their component suppliers in the 1980s and 1990s of the Chinese automobile industry.

The satellite platform is the second type of ID, which consists of a congregation of branch facilities of externally based multi-plant firms. It is often induced by the policies of national/local governments to stimulate regional development (Pietrobelli and Guerrieri, 2004). Key investment decisions are made out of the ID, and tenants of the satellite platform must be able to more or less stand alone, that is to be spatially

independent from upstream or downstream operations as well as from the agglomeration of other competitors and suppliers in the same area (Pietrobelli and Guerrieri, 2004). Constraints to the development of this type of ID derive from the lack of local sources of finance, technical expertise, and general business services (Pietrobelli and Guerrieri, 2004).

Figure 3 – Markusen's industrial district

Source: Markusen (1996a: 297)

The third category of ID proposed by Markusen is the hub-and-spoke district. It occurs where one or more firms/facilities act as anchors or hubs to the regional economy, with suppliers and related activities spread around them like the spokes of a wheel (Markusen, 1996b). A single large – often vertically integrated firm (e.g. Toyota in Toyota City) or several large firms in one or more sectors (e.g. Chrysler, Ford, and GM in Detroit; VW and GM in Shanghai; Toyota, Honda, and Nissan in Guangdong) may act as hubs, surrounded by smaller and dominated suppliers (Markusen, 1996b).

The large hub-firms often have substantial links to suppliers, competitors, and customers outside the district. The spokes can act as sensors for innovation and creativity and thereby enable the transfer of new ideas and technology; however, spokes may inform the hub firm of the potential benefits and opportunities elsewhere and drive the major firm out of the region (Pietrobelli and Guerrieri, 2004). Cooperation among competitors within this form of ID is remarkably lacking, and inter-firm relationships occur primarily between the hub firm and their immediate (often long-term) suppliers with the terms of cooperation being set mainly by the hub-firm. Thus, in principle the hub might even be interested in deliberately playing off one supplier against another as a way of getting more favourable conditions (Markusen, 1996b; Pietrobelli and Guerrieri, 2004).

Regarding the Chinese automobile industry, the hub-and-spoke district approach appears to be more relevant than the other two. Many clusters develop out of the formation of one or two innovative firms that stimulate the growth of many others (Wolfe and Gertler, 2004). In the case of the automobile industry, the anchor firm may require more than ten thousand parts to assemble one car. The related firms who supply these parts and components to the anchor firm will move into an industrial zone where their anchor firm is a tenant. As a result, an industrial cluster will thus be formed around the industrial zone by agglomeration of the firms related to the anchor firm. For example, since Honda first entered China by forming a JV with Guangzhou Automobile Group Co., Ltd in 1998, around 40 of the first tier, the second tier, and the third tier of Honda's suppliers have moved into Guangzhou from 2001 to 2005 (Walter, 2003; Kuchiki, 2008a; Zhao and Gao, 2009). Nowadays, Honda can procure most of the main components of its cars in the Guangzhou area.

5.3.2 Porter's diamond model

Porter (1998c) proposed a diamond model for a cluster to achieve competitive advantages over other clusters. The model (Figure 4) explains that any cluster if becomes innovative, four conditions need to be met. Porter constructed a model in which the four factors of demand conditions, factor conditions, firm strategy, and related and supporting industries are conditions for an industrial cluster (Porter, 1998c; Kuchiki, 2008a; b). The diamond model involves attributes that indirectly or directly influence competition advantage (Cini and Nater, 2009). These attributes form a surrounding in which a certain industrial company, industrial branch, overall industry, region or state act and learn how to compete in that environment (Porter, 1998c).

Figure 4 – Porter's diamond model

Apart from these four factors, the diamond model also involves two separate factors: government and chance. These two factors refer to factors which can assist or hinder the actions of industrial firms (Porter, 1998c; Cini and Nater, 2009). The main role of the government is not to create rivals, but to create conditions in which the industrial firms can become competitive (Porter, 1998c; Kuchiki, 2008a; Cini and Nater, 2009).

Nothing can be accomplished without norms and standards. Governments, both central and local, have new role to play with regards to clusters. Porter (1998b) indentifies three roles for governments: 1) they must ensure the supply of high-quality inputs such as labour and physical infrastructure. Quality labour and advanced infrastructure are the backbone of a cluster which seeks to be innovative and competitive. Regarding the Chinese automobile industry, in order to form a cluster in southern China, the Guangzhou city council, for example, took up the challenges by paying for utilities such as water and electricity facilities and dealing with construction of highways (Thun, 2006; Kuchiki, 2008a). Finally, often entailed in this is the promotion of cluster formation and the upgrading and build-up of public goods that have a significant impact on the many businesses linked to the industry concerned. This seems to have been the case in Shanghai when the local authority was dealing with both VW and GM (Thun, 2004).

5.3.3 Kuchiki's flowchart approach

Although Markusen's ID approach clearly classified the three types of industrial clusters and identified the relationship between anchor firms and their related firms in the case of hub-and-spoke, she neither showed the process of how to form an industrial cluster nor listed conditions required to form an industrial cluster (Kuchiki, 2008a).

With regards to Porter, his diamond model sets four conditions required for an industrial cluster; however, it may not be easy to satisfy the four conditions at the same time (Kuchiki, 2008a). As a practical method, Kuchiki (2005; 2007; 2008a, b) introduced flowchart model (Figure 5). The model proposes cluster policy that prioritises policy measures in linear form by ordering policy measures in a line.

According to Figure 6, a successful condition for the success of industrial cluster is to satisfy the following conditions in proper order: (a) industrial zone, (b) capacity building, (c) anchor firm, and (d) related and supporting firms.

A local government first constructs an industrial zone as a saucer to invite investors, followed by capacity building to improve business and living conditions for investors. It is typical for governments to establish industrial zones in the early stages of industrialisation, for example, Guangzhou city council constructed six industrial zones for the automobile industry in southern China as the preparation for the entry of Toyota, Honda, and Nissan (Kuchiki, 2008a; Whalley and Xin, 2010).

Capacity building consists of infrastructure, institutions, human resources, and living conditions. Infrastructure usually includes water, electricity, communication and transport. Institutions may refer to services, deregulation, laws and regulations, and preferential treatment such as tax incentives. Regarding the Chinese automobile industry, Guangzhou city council, as noted earlier, faced many challenges in forming the cluster such as addressing the shortage of electricity and construction of highways and subways, dealing with a rise in labour costs and overcoming the shortage of Chinese interprets of the Japanese language (Kuchiki, 2008a). On the other hand, it sometimes happens that an industrial cluster faces a shortage of skilled labour after industrialisation has progressed; universities and training centers for innovation are then needed for further development (Donnelly and Hyry, 2004; Kuchiki, 2008b). One problem of the Shanghai automobile industry cluster is that the local labour market, which has expanded rapidly in conjunction with the growth of the industry, has not been able to satisfy the demand for specialised workers. In order to overcome this issue, at Tongji University, a Chinese-German university college was founded in

1998 where Chinese students could obtain specialised skills and receive the degrees in the subjects required in the industry (Depner and Bathelt, 2005).

Figure 5 – Kuchiki's flowchart approach

Source: Kuchiki (2008a: 2)

Finally, living conditions related to housing, hospitals, shopping, and entertainment are crucial to inviting investors. Staff members of investor firms will have incentives to work hard if they are enjoying their lives. This is the last condition that must be satisfied before anchor firms can be invited (Kuchiki, 2008a; Florida, 2010). With all necessary physical infrastructure and software are set, firms would be willing to invest. To conclude, Bathelt *et al* (2004) state that co-location is by no means an absolute requirement for transfer of tacit knowledge, sometimes nor is it sufficient. However, in the case of automobile industry, co-location has a strong temporal

component (Sturgeon *et al*, 2008). It can take months or even years to develop and implement programmes and without a physical presence, this might prove extremely difficult.

Finally, as most of the automobile clusters in China are of fairly recent origin, it must suffice to say that there is no one specific type that dominates and aspects of the many different types can be found scattered across the industry which in turn means no hard and fast conclusion can be drawn at this stage. More will be said on clusters in chapter 5.

6. Summary

This chapter reviewed literature on role of government, globalisation, FDI, and industrial clusters. As mentioned in the beginning, these four elements have been selected due to their importance to the Chinese automobile industry. The force of globalisation and increasing integration of world economy has given automobile firms an opportunity to pursuit more success by internationalising their activities. Joint venture approach as an entry mode of FDI is adopted by all foreign automobile firms to enter the Chinese automobile market, mainly due to government regulations. The nature of automobile industry as one of the pillar sectors in China means the government would not let the foreign firms fully dominate the market and resources. As a result, FDI to the Chinese automobile industry has been carefully controlled and guided by the government. The importance of industrial clusters to the automobile industry was also discussed with examples from both developed (e.g. US) and developing countries (e.g. Thailand). Although, the Chinese automobile industry is still considered as relatively fragmented, regional clusters with several possible future

national champions have emerged. Details of the four literature elements with relation to the Chinese automobile industry are illustrated in both chapters 4 and 5.

To sum up, the internationalisation of the world economy and the force of globalisation created an opportunity for firms to enter new markets. Much of the literature on FDI is concerned with determinants of the decision to undertake international production relating to ownership, internalisation, and location advantages that derive from a firm managing activities internally and which influence the choice to produce in a foreign location. It is worth mentioning that FDI is a complex decision making process and there are other factors (e.g. timing of entry) which firms should take into account in reality; meanwhile, attracting FDI also require governments to broaden their minds as foreign investors will always insist on basic political and macroeconomic stability as well as appropriate microeconomic conditions (Wei *et al*, 2005; Tao, 2007). Foreign firms adopted joint ventures to access to China's automobile industry, primarily due to host government policies and regulations. FDI to the Chinese automobile industry aims at its enormous population and marketplace rather than simply cheap labour. The impact of FDI to the Chinese automobile industry is further analysed in detail in chapter 5.

CHAPTER THREE – CONCEPTUAL FRAMEWORK AND RESEARCH METHODOLOGY

1. Introduction

Chapter 2 discussed the literature relating to the role of government, globalisation, FDI, and industrial clusters. In chapter 3, these elements are set out within a conceptual framework for the research, followed by a discussion on research philosophy. In discussing the research philosophy, questions, such as why do we need philosophy in research, are investigated. After that, the chapter reviews two important present research philosophy elements: ontology and epistemology. With regards to epistemology, Royce's four ways of knowing (rationalism, empiricism, intuitionism, and authoritarianism) are explained. Moreover, based on Royce's idea, the epistemology related to this particular research is also discussed. In terms of an epistemological position, the decision for adopting an interpretive approach is made after comparing it with positivist and post-positivist approaches.

Then, the chapter goes on to explore different research methods (qualitative and quantitative) in relation to validity and reliability. Meanwhile, data collection methods (primary and secondary) and research strategies (interviews and case studies) are also reviewed including: strengths, limitations, and possible ways to overcome these concerns. Finally, the significance of the study is reviewed.

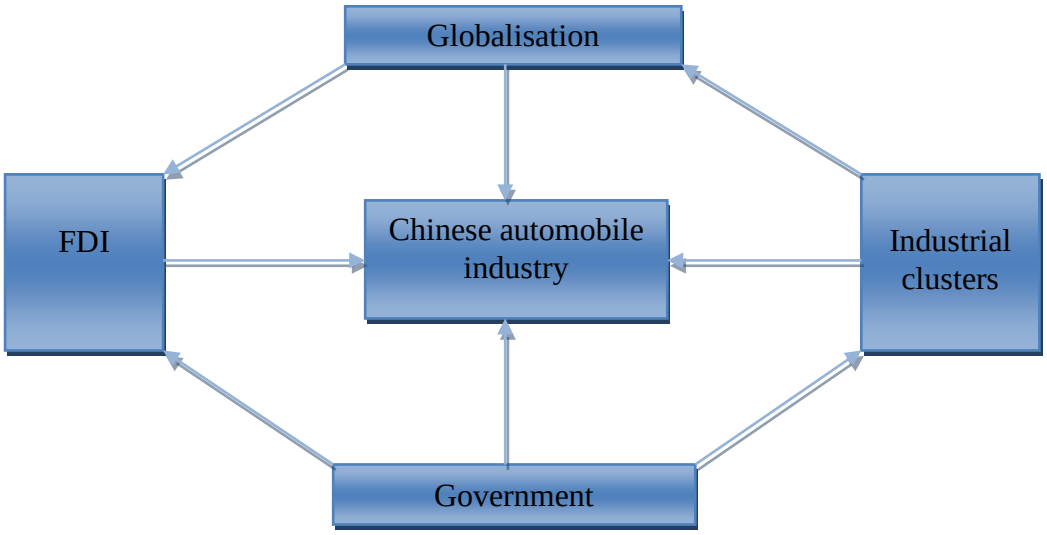
2. Conceptual framework

In chapter 2, an examination of the literature revealed a large body of research on role of government, globalisation, FDI, and industrial clusters. How can all of these be contextualised and located in the context of the Chinese automobile industry? The answer is: it can be achieved by developing a conceptual framework by drawing

together previous studies which have been identified. The aim of developing a conceptual framework is to provide a comprehensive and clear picture of what this research is going to focus on. As shown in Figure 6, the framework considers the following:

- Globalisation and the Chinese automobile industry
- The influence of government on the Chinese automobile industry
- The role of FDI on the Chinese automobile industry
- Industrial clusters and the Chinese automobile industry

Figure 6 – Conceptualisation of globalisation, FDI, the role of government, and industrial clusters on the Chinese automobile industry



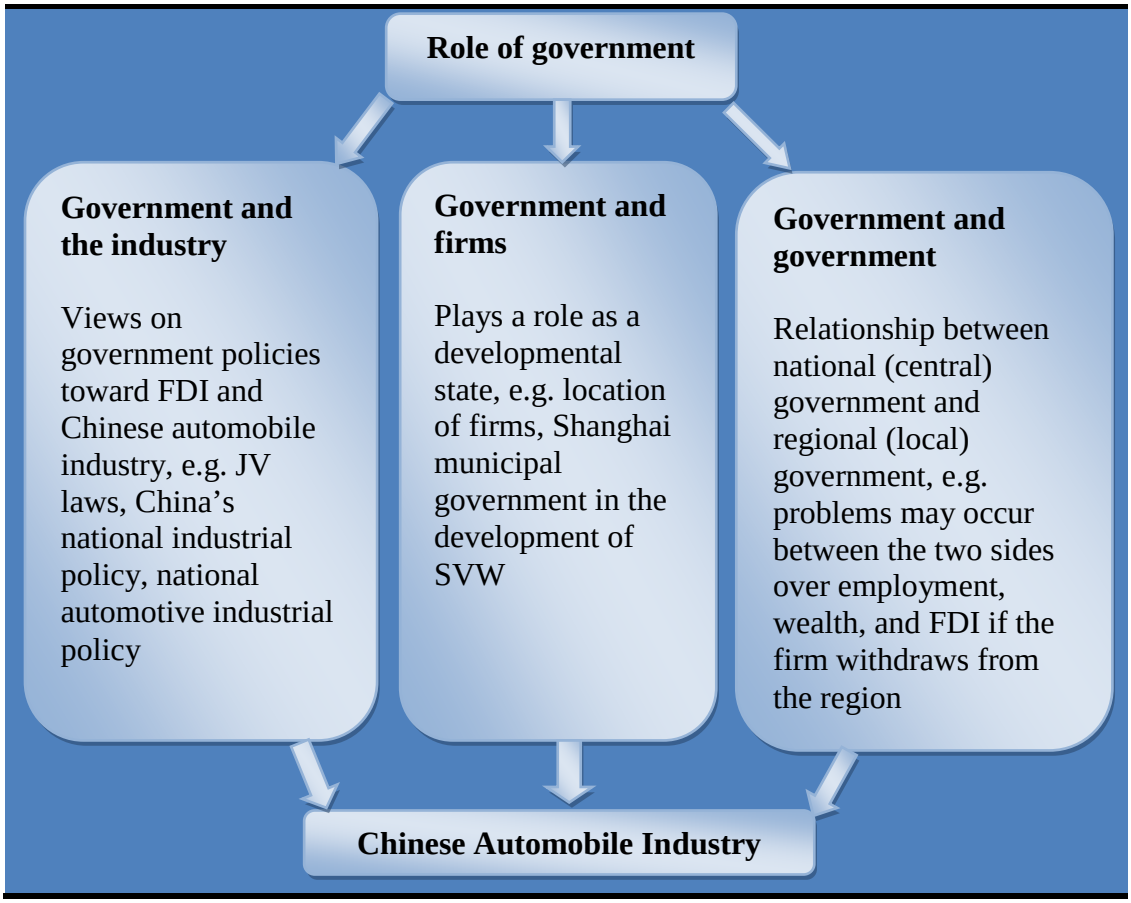
Source: author analysis

These four elements are thought to have played an important role in the development of the Chinese automobile industry as discussed in chapter 2, and will continue throughout the thesis. In addition, each of the four elements concerned with the industry are related to one another. The globalising trend of world economy creates an opportunity for firms to internationalise. FDI adopted by multinational firms to enter China's automobile industry is controlled by the government due to the importance of the industry to its economy. Automobile production is concentrated in several clusters in which government, both central and local, plays a role. For Porter (1998b; 2000) and Porter *et al* (2010), clusters are a manifestation of the diamond which itself was

devised to explain the competitive advantage of a nation in the global economy. For a detailed view of each element, Figures 7, 8, 9, and 10 are presented.

Figure 7 shows a conceptual framework of the relationship between government and the Chinese automobile industry. It focuses on 3 main aspects: its influence on the industry, its role on the development of automobile firms (e.g. JVs) and its relationship with regional governments. The Chinese automobile industry as a whole has always been influenced considerably by government policies and regulations, which fits well with the idea of the developmental state discussed in chapter 2 and notable scholars are such as Evans (1995; 1998; 2008), Johnson (1982; 1999), Wade (1990), and Woo-Cumings (1999).

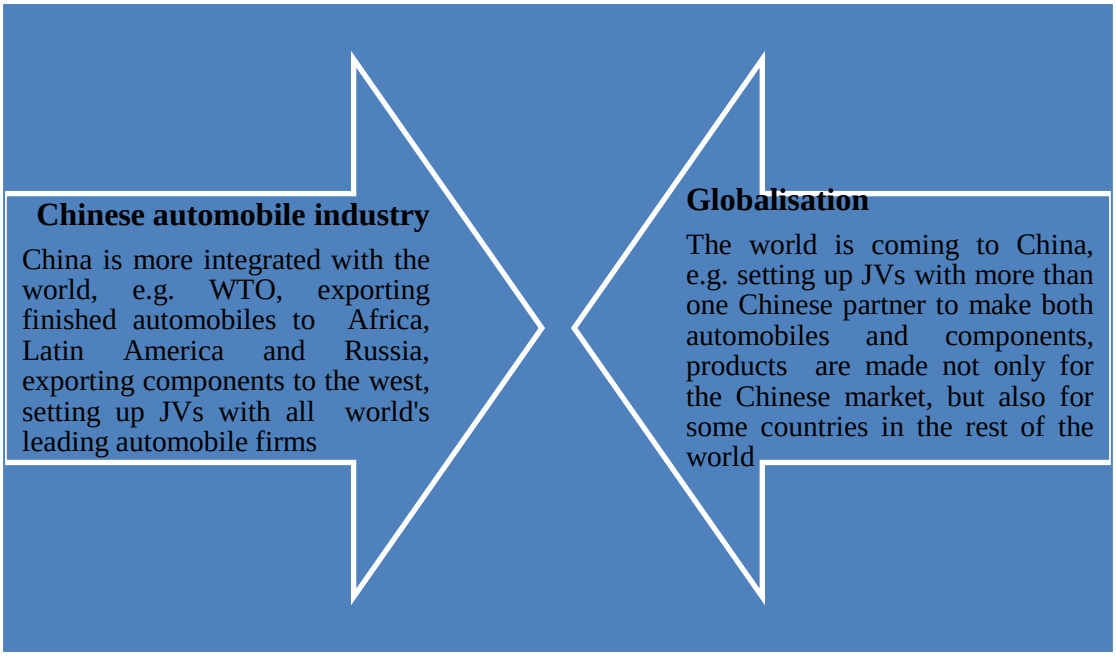
Figure 7 – Conceptual framework on the role of government and the Chinese automobile industry



Source: author analysis

However, this is not to say that the government impedes growth and development of the industry, but most of the time, it played a supportive role in shaping the development of the industry and building long term capabilities. In terms of its role with firms, government has succeeded to a limited extent in consolidating a highly fragmented industry. Decentralisation led by the central government during the reform period provided a huge incentive for local governments; however, it also caused a fragmented structure of the automobile industry, as later on, central government found it difficult to consolidate the industry because of the resistance from local governments.

Figure 8 – Conceptual framework on globalisation and the Chinese automobile industry



Source: author analysis

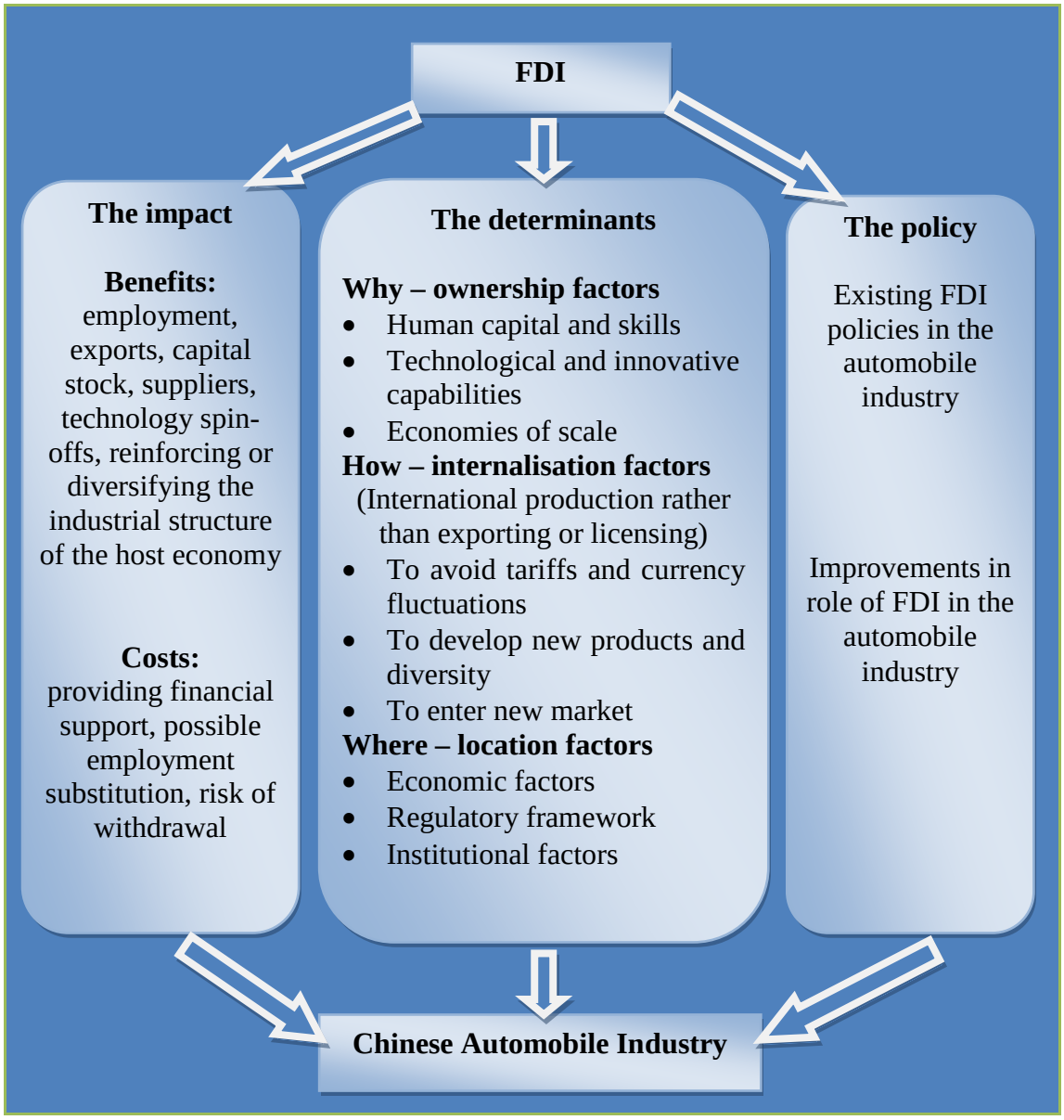
Moving to globalisation, Figure 8 shows the emerging force between China and the global economy with regards to the automobile industry. The globalising force of the world economy has begun to impact on government management of the Chinese national economy. As a result, the country is transforming from a command to a market economy under the direction of the communist party. It is trying to create

market mechanisms (e.g. incentives, opportunities) to attract foreign investment as well as establishing linkages with the global economy. In doing so, central government had to introduce some changes in the domestic economic and legal systems (e.g. copyright, Joint Venture Law 1984) to establish or maintain the global linkages. For example, one year after China's accession to the WTO, the government had amended 2,300 laws and regulations and abolished 830 in an effort to comply with the accession agreement (*China Business Review*, 2004). All of these adjustments needed to take into account of China's emerging linkages with the global economy.

Figure 9 shows a diagrammatic summary of the relationship between FDI and the Chinese automobile industry. It is divided into three categories: determinants, impact, and policies. The most notable and comprehensive attempt to conceptualise the determinants of FDI is introduced by Dunning, particularly his view on activities of MNEs – notably as the ownership, location, and internalisation (OLI) model. His eclectic paradigm along with other scholars' work, such as Hymer (1976), Vernon (1966), Buckley and Casson (1976), constitute the basic theories of FDI.

The reason that foreign automobile firms entered China can be briefly described as using their competitive advantages (e.g. brand image, technology, finance, and economy of scale) to grab a share in what it is believed the fastest growing economy in the world. Moreover, the 1.3 billion people indicate a huge potential. A majority of the foreign automobile firms set up their production by establishing a JV with one or two domestic Chinese firms, and most JVs are located in either the eastern coastal area where people enjoy a relatively high income or the northern part of the country where traditionally heavy industries have located.

Figure 9 – Conceptual framework on FDI and the Chinese automobile industry

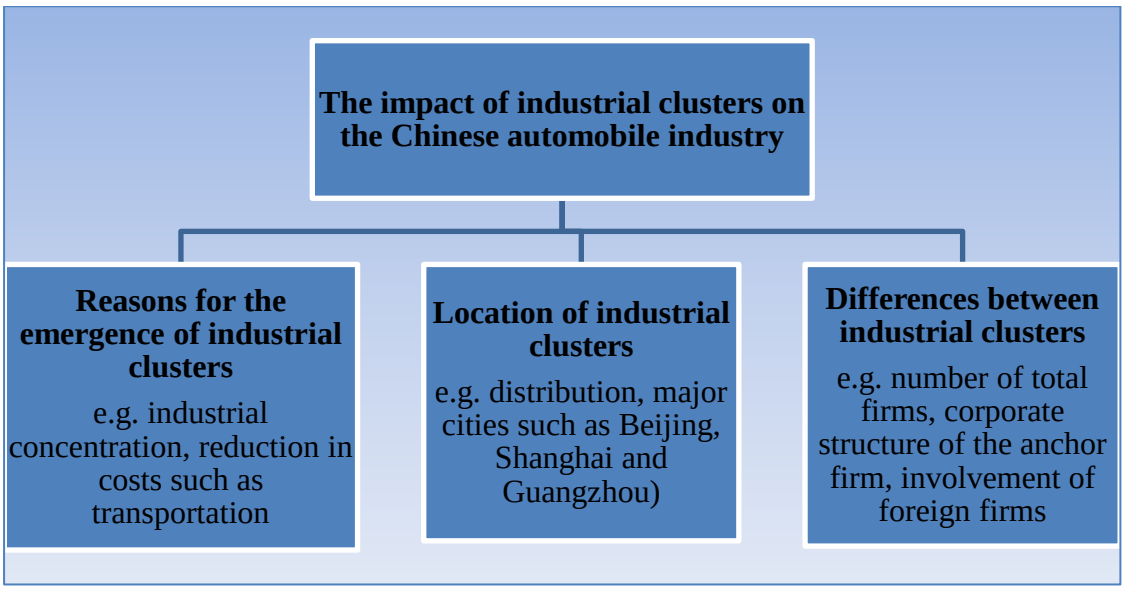


Source: author analysis

The benefits of FDI to the industry are considerable. Direct benefits are such as additional capital to the industry, job creation (employment), and increased exports. Indirect benefits refer to input purchases from local suppliers. Moreover, there are dynamic benefits from medium to longer term. Medium term benefits are technological spill-over and demonstration effects while longer term benefits include reinforcement or diversification of the industrial structure of the host country (Thun, 2004; 2006; Dicken, 2007). Dynamic benefits usually need more time to be realised.

However, FDI might impose costs, and the direct costs would be for example providing financial assistance to investors and the indirect costs may happen via employment substitution. In the longer term, the cost of withdrawal or closure of MNEs can be one of the most significant costs to the host country. The research will also look at FDI policy issues which start by exploring the existing policy towards FDI and then recommendations and suggested improvements are identified.

Figure 10 – Conceptual framework on industrial clusters and the Chinese automobile industry



Source: author analysis

Finally, the development of the Chinese automobile industry is closely linked with industrial clusters (Figure 10); no matter whether it is in a developed country or developing country, for example: the UK's West Midlands, the US's Detroit, and Thailand's Chai Mai. China is no exception; its major automobile firms operate in several regional clusters across China although the industry itself is still relatively fragmented. The topic is examined in detail in chapter 5 where various aspects are discussed including: why do industrial clusters emerge? where are the industrial clusters in the automobile industry? and how do these industrial clusters differ from each other? In explaining the reasons for industrial clusters, elements such as

industrial concentration and lower costs are among the consideration. Figures 39 and 40 designed in chapter 5 give a clear picture of the location of industrial clusters. Finally, these clusters are compared based on elements such as nature of corporate structure of the anchor firm and involvement of foreign firms.

3. Research philosophy

"The research philosophy adopted contains important assumptions about the way in which the researcher views the world and these assumptions will underpin research strategy and the methods chosen as part of that strategy" (Saunders *et al*, 2007: 101). Philosophy can be influenced by practical considerations (e.g. time, degree of access to data), but is more likely to be influenced by the researcher's particular view of the relationship between knowledge and the process by which it is developed (Smith, 1998; Saunders *et al*, 2007). For example, the researcher who is concerned more about volume or output of a manufacturing process is likely to have a different view on the way research should be conducted from the researcher who pays attention on attitudes or feelings of the staff about the work in the same manufacturing process. Not only will their strategies and methods probably differ considerably, but so will their views on what is important, and perhaps more significantly, what is useful. Thus, understanding the research philosophy ensures the researcher to choose methods which are compatible with the research.

In this section, we examine two major ways of thinking about research philosophy: ontology and epistemology. They are two important elements of philosophy and can be considered as the foundations upon which research is built. Thus, the research methods chosen are closely connected to and built upon ontological and epistemological assumptions (Grix, 2004). Each contains important differences that influence the way in which the author thinks about the research process.

3.1 Ontology

Ontology is concerned with nature of reality (Saunders *et al*, 2007; 2009), or put it in other words, what is out there to know? It is a discipline of philosophy whose practice dates back to Aristotle and is the science of what is, the kinds and structures of objects, properties, events, processes and relations in every area of reality; ontology is, put simply, about existence (Blaikie, 1993; Welty, 2003). Why it is important to know what exists out there? The nature of what exists is often related to how it is studied; therefore, knowing what it is enables us to conceptualise social reality in certain terms and identify what there is to be explained (Archer, 1995)

As a result, we all have a number of deeply embedded ontological assumptions which will affect our view on what is real and whether we attribute existence to one set of things over another (Flowers, 2009). If these underlying assumptions are not indentified and considered, the researcher may be blinded to certain aspects of the inquiry or certain phenomena, since they are implicitly assumed, taken for granted and therefore not open to question, consideration or discussion (Flowers, 2009). When considering that different views exist regarding what constitutes reality, another question must be how is that reality measured, and what constitutes knowledge of that reality. This leads to questions of epistemology.

3.2 Epistemology

“If ontology is about what we may know, then epistemology is about how we come to know what we know” (Grix, 2004: 63). Epistemology is also defined as “branch of philosophy that asks questions such as how we can know anything with certainty? Or what methods can yield reliable knowledge?” (Thomas, 2004: 36).

For this research in particular, the 'what' to be known is the Chinese automobile industry. How do we know the 'what' actually exists? Royce indentified four ways of knowing which are described in Thomas (2004: 38) as following:

- "Rationalism is the way of knowing by means of thinking and reasoning. It assumes that nothing can be true if it is illogical. This way of knowing figures prominently in mathematics and philosophy."
- "Empiricism is the way of knowing reliant upon sensory perception. It assumes that if something is accurately perceived, it is true. Empiricism plays a key role in science, where observing the world is a central task."
- "Intuitionism is the way of knowing based on immediate or obvious 'awareness' that perhaps arises from unconscious process. It assumes that if this awareness yields insight, then it is true. Artistic knowledge is based heavily on intuitionism, as is the personal knowledge gained from contemplation or meditation."
- "Authoritarianism is the way of knowing based on authority. Something is true because an authority says it is true. In some religions, for example, revealed truth is derived from divine authority."

Thomas (2004: 38) goes on to explain that "the efforts to know involve all four of these ways in general, but specialised areas tend to draw heavily on one or two of them." For example, a rationalist way of knowing is usually adopted by philosophical inquiry which attempts to establish its truths through the deployment of arguments and counter-arguments. On the other hand, physical scientists believe that carefully controlled and recorded empirical observations are logically linked to explanatory theories. "Each of the paths to knowledge is valid but limited to the particular aspects of the world to which it is suited" (Thomas, 2004: 38).

In terms of this research, epistemology comes from the reality that FDI flows into China as its economy becomes more integrated with the global economy, resulting in the establishment of JVs between Chinese and foreign automobile firms, most of which are either located along the coast (e.g. Guangzhou, Nanjing, and Shanghai) or in the northern part of the country (e.g. Changchun, Shenyang). Together with state-owned and newly established indigenous firms, these form the Chinese automobile industry. The industry operates under government policies such as automobile industrial policy (AIP) of 1988, 1994, 2004 and automobile industry restructuring and revitalisation plan 2009. Moreover, a number of authoritative scholars have undertaken research on the Chinese automobile industry including: Harwit (1995), Yang (1994; 1995), Donnelly and Morris (1997; 2003a), Donnelly *et al* (2010), Thun (2004; 2006), Thun *et al* (2010), Luo *et al* (2009), and Chin (2010). Although, there are differences between them in terms of focus, for example, Donnelly and Morris (1997; 2003a) and Yang (1994; 1995) are more concerned about how globalisation has affected the industry while Harwit (1995) and Thun *et al* (2010) view the industry in a more political context, Donnelly *et al* (2010) and Luo *et al* (2009) discuss the overall development of the industry via timeline while Thun (2004; 2006) and Chin (2010) pay more attention on FDI and the role of government. It is from these foundations that the research precedes.

Two major epistemological orientations that have dominated debate in social sciences are positivism (positivist) and interpretivism (interpretivist) (Saunders *et al*, 2007). Positivism affirms the importance of imitating the natural sciences while interpretivism advocates the role of human beings in social action (Bryman and Bell, 2003; 2007; Saunders *et al*, 2007). Although they are not the only epistemologies that

underpin social research, they do represent the two dominant approaches. Despite these differences, in practice there can be a degree of crossover through post-positivist as shown in Figure 11.

Figure 11 – Key research approaches

Source: Grix (2004: 78)

According to Grix (2004), there are three broad approaches in philosophy of sciences which are set out in Figure 11, positivist, post-positivist, and interpretivist. As moving from left to right, we go from approaches attempting to explain social reality to those seeking to interpret or understand it. The remainder of the section will deal with the three terms in detail. Moreover, based on the approaches above, it is essential to select an appropriate method for this research.

3.2.1 Positivism

Positivism was the "most dominant research approach in the twentieth century" (Grix, 2004: 79) and its historical legacy can go back to Aristotle and has been developed through notable figures such as Francis Bacon and Auguste Comte (Thomas, 2004; Grix, 2004). Positivism is a broad epistemological approach, and it has other terms related to it such as empiricism, objectivism, naturalism, and behaviourism (Bryman and Bell, 2003; Grix, 2004; Thomas, 2004). It refers to an approach to knowledge which restricts itself to observable facts and their relationships and which exclude reference to non-observable entities such as gods and senses (Crossan, 2003). Abercrombie *et al* (2000: 269) define positivism as "an approach in the philosophy of science, characterised mainly by an insistence that science can deal only with

observable entities known directly to experience and is opposed to metaphysical speculation without concrete evidence." It aims to construct general laws or theories which express relationship between phenomena which is showed by either observation or experiment to tell whether they are or are not related in the predicted way (Abercrombie *et al*, 2000).

Furthermore, positivism places emphasis on empirical theory which is a feature of realism and rejects normative questions, believing that research is undertaken in a value-free way. Value-free in the sense that the researcher is value-neutral (Grix, 2004; Saunders *et al*, 2007). However, this is debatable as one would argue that complete freedom would be impossible in research because researchers can still influence the study by choice of issues to do research on, objectives to pursue and ways of collecting data.

On the other hand, being value-free or neutral, or at least attempts to overcome human messiness (e.g. pressure, worry, fear, and tension) by seeking rules and laws which to make the social world understandable in the research is one attractiveness of a positivist approach (Gill and Johnson, 2002). More often, positivist researchers will be likely to use a highly structured methodology and the emphasis will be on quantifiable observations that lend themselves to statistical analysis (Crossan, 2003; Saunders *et al*, 2007).

3.2.2 Interpretivism

Interpretivism, an alternative to positivism, tries to "understand the world of lived reality and situation-specific meanings that constitute the general object of investigation and is thought to be constructed by social actors" (Schwandt, 1994: 118). The key influences cited in relation to this approach include Max Weber, George

Herbert Mead, and Ervin Goffman (Grix, 2004). Interpretivism is usually associated with other terms such as idealism, constructivism, phenomenology and relativism (Grix, 2004; Thomas, 2006). The interpretivists are concerned with subjectivity and understanding and with phenomena that cannot be explained mechanically (Primus, 2009). This approach is highly appropriate in the case of business and management studies, particularly in such fields as organisational behaviour, marketing, and human resource management. Not only are business situations complex, they are also unique; they are a function of a particular set of circumstances and individuals (Grix, 2004; Saunders *et al*, 2007).

The interpretive approach is often criticised as lack of generalisability; however, the interpretivist would argue that generalisability is not of crucial importance as we are constantly being told of the ever-changing world of business organisations (Kelliher, 2005). Williams (2000: 209) emphasises that "interpretivists deny the possibility of generalisation, or they ignore the issue, but they do generalise and this is inevitable".

2.2.3 Post-positivism

Post-positivism is a research approach placed between both positivism and interpretivism. It has grown in importance since the 1970s but the historical antecedents of this approach can go back to the work of Karl Marx and Sigmund Freud (Neuman, 2000; Grix, 2004). The approach attempts to combine the 'how' (understanding – which is linked to positivism) and the 'why' (explanation – which is linked to interpretivism) approaches by bridging the gap between the two extremes (Sayer, 2000; May; 2001). Many textbooks choose the term 'realism' to describe post-positivist (Sayer, 2000; Grix, 2004; Thomas, 2004; Saunders *et al*, 2007). One thing worth mentioning here, realism basically has two features: empirical and critical, it is

the critical part of realism that fits this approach (Saunders *et al*, 2007). Post-positivist approaches assume that reality is multiple, subjective and mentally constructed by individuals (Crossan, 2003). The use of flexible and multiple methods is desirable as a way of studying a small sample in depth over time rather than on a large scale (McGregor and Murnane, 2010). The researcher interacts with those being researched, and findings are the outcome of this interactive process with a focus on meaning and understanding the situation or phenomenon under examination (Crossan, 2003). Compared with positivism and interpretivism, post-positivism is still a relative newcomer to the research field and it has so far not been as influential as the positivist and interpretivist approaches (Thomas, 2004).

It would be wrong to think that one approach is better than the other. They are better at explaining different things and which is better depends on research questions asked. It is more about the choice of research methods rather than any substantive differences at a metatheoretical level (Weber, 2004). Different research methods and different data analysis methods have different strengths and weaknesses. They provide us with different types of knowledge about the phenomena that are our focus. Moreover, different research methods have different strengths and weaknesses depending on our existing knowledge about the phenomena (Weber, 2004).

This research has considered the possibility of using a positivist approach; however, as the research aims to gain a better understanding of the development of the Chinese automobile industry, which means in contrast to the natural scientific type of research topic, the stress here lies in achieving an understanding of the social world (e.g. Chinese automobile industry) through an examination of the interpretation of that world by its participants. In addition, the research itself is not a repeatable laboratory

experiment which requires an extremely high level of reliability and which normally requires great amount of data to provide the basis for hypothesis testing. Moreover, the interpretivist approach allows the researcher to carry out interviews and case studies which are likely to deepen our understanding of the topic. This approach has also been adopted previously by authors such as Harwit (1995), Thun (2006), Luo *et al* (2009), and Chin (2010). The possibility of using a post-positivist approach was also ruled out after consideration. Although this research carried out interviews and there was a place for the voice and role of the participants from a point of post-positivist's view, findings are not solely based on interactions and communications with people, and in the end, people are not central to the research, but an alternative way to gather data in parallel with case studies and other secondary data to increase the validity of the research (McGregor and Murnane, 2010). Based on the reasons explained above, an interpretivist approach for this research seems to be more appropriate.

4. Validity and reliability

In terms of research findings, it is important to evaluate the methodology adopted in association with validity and reliability. In discussions of social research, "validity and reliability are almost always presented jointly" (Thomas, 2006: 185). Validity is defined by Hammersley (1992: 94) as "truth: interpreted as the extent to which an account accurately represents the social phenomena to which it refers". Collis and Hussey (2009: 143) add that it is "the extent to which the research findings accurately reflect the phenomena under study". On the other hand, according to Gill and Johnson (1997: 129), reliability refers to "the consistency of results obtained in research, to satisfy this criterion it should be possible for another researcher to replicate the original research using the same subjects and the same research design under the same

conditions". Put it in another way, it refers to "the absence of differences in the results if the research were repeated" (Collis and Hussey, 2009: 143).

The use of validity and reliability are common in qualitative and quantitative research (Golafshani, 2003). However, depending on the nature of the research, one approach may be required more than the other. It is believed that qualitative approach usually results in findings with a high degree of validity while quantitative approach usually results in findings with a high degree of reliability (Collis and Hussey, 2009).

5. Qualitative and quantitative approaches

A qualitative approach is defined by Patton (2001: 39) as "a naturalistic way that seeks to understand phenomena in context-specific settings". Winter (2000) defines the quantitative approach as attempts to fragment and delimit phenomena into measurable or common categories that can be applied to similar or wider or even all of subjects and situations.

Comparing the two approaches, it is found that "qualitative data (thus analysis) is normally transient, understood only within context and is associated with an interpretive methodology while quantitative data (thus analysis) is normally precise and can be captured at various points in time and in different contexts" (Collis and Hussey, 2009: 143). In addition, a qualitative approach pays more attention to illumination, understanding and extrapolation in similar situations while a quantitative approach seeks causal determination, predication, and generalisation of findings (Hoepfl, 1997). In the end, qualitative analysis may result in a different type of knowledge than quantitative inquiry does, because "one argues from the underlying philosophical nature, enjoying detailed interviewing and the other focuses on the apparent compatibility of the research methods" (Glesne and Peshkin, 1992: 8).

Interpretivism and qualitative approaches are sometimes used interchangeably while positivism and quantitative approaches are often related (Williams, 2000). Although a qualitative approach is adopted, the two approaches are not mutually exclusive and can be combined sometimes quite naturally. Numerical data have been provided as appropriate, for example in dealing with growth rate, total output, and production share. Having chosen which approach to take up, research strategies associated with qualitative approach would be case studies and interviews which are discussed below.

6. Primary and secondary data

After adopting a qualitative approach, the section moves on to analysing types of data that are available. It is suggested that there are advantages in using a combination of different data (primary and secondary) in research (Brewer and Hunter, 1989). Multiple sets of data can answer the same research question from different angles which enable triangulation to take place. For this research, both primary and secondary data are employed.

6.1 Primary data

With regard to primary data research, it generally gives researchers a greater scope to investigate social phenomena because it uses data gathered for the specific purpose of the research. There are three different types of primary data collections: observation, questionnaires, and interviews (Bryman and Bell, 2003; Saunders *et al*, 2007). Participant observation could be an excellent method for primary data collection; however, given the restrictions in terms of time, access, and opportunity, this method is not feasible for this particular piece of research.

The choice of using a questionnaire was also ruled out after consideration. Questionnaire works best with standardised questions, and are normally interpreted in the same way by all respondents (Robson, 2002). The nature of this research topic differs from a survey which can be carried out by a questionnaire (e.g. listing, ranking, rating, quantity, and category). Moreover, response rate is another concern (Rogelberg and Stanton, 2007; Saunders *et al*, 2009). A low feedback rate could limit the researcher's confidence they have in their data. For this research, the author chose interviews since they are regarded as a useful alternative way of gathering primary data.

Generally, there are four broad types of interview techniques which can be used in research: structured, semi-structured, unstructured, and group interviews (or focus groups) (Grix, 2004). The structured interview with closed questions is the kind of method in which "predetermined questions are put to the interviewee in a specific order and the responses are logged" (Grix, 2004: 127). This technique is very close to survey questionnaires on which answers to predetermined questions are written in specific sections instead of given orally. The key aim of structured interviews is to achieve a high degree of standardisation or uniformity, and, hence, ease of comparability, in the format of the answers. It can be carried out by "face-to-face interviews as well as via e-mail and telephone" (Kumar, 1999: 109). The main drawback (also the reason why which this method is not chosen by the author) of this method is that the technique is inflexible in terms of coping with the unexpected which may result in missing the opportunity of discovering important information.

The unstructured interview is the method in which the interviewer "has a random list of concepts or loose questions which can convert into spontaneous questions during

the interview" (Grix, 2004: 128). This technique can be useful at the very beginning of a project, as unstructured sessions can open up avenues of investigation, including informal discussions, previously unthought-of. Both semi-structured and unstructured interviews are considered as non-standardised research (King, 2004; Saunders *et al*, 2007). Since the interview questions were sent to all participants before interviews in the hope of a better understanding from the participants on the context of the interviews and the questions were designed and asked specifically rather than randomly with focus on the literature and aim and objectives of the research; therefore, a technique of unstructured interviews is not adopted by the author.

Thus, all of the interviews which have been carried out in this research are face to face semi-structured interviews. According to Grix (2004) and Saunders *et al* (2007), semi-structured interview is the kind of method that the interviewer has a list of themes and questions to be covered and it is suggested that the number of questions for such an interview should be kept no more than 10 or 12 in total. However, it can be argued that number of questions that are brought in the interview should depend on the time allowed for the interview and the nature of the topic. Advantage of this technique compared with structured interview is that "it allows a certain degree of flexibility and allows for the pursuit of unexpected lines of enquiry during the interview" (Grix, 2004: 127). This method allows the interviewer to raise supplementary questions that arise from the interviewees' response.

A focus group is used to refer to those group interviews where the topic is defined clearly and precisely and there is a focus on enabling and recording interactive discussion between participants (Carson *et al*, 2001). The interviewer thus acts as a "moderator or facilitator, and less of an interviewer" (Punch, 2000: 177). This type of

interview can also be structured, semi-structured or unstructured. The idea is then more about sparking a dialogue between group members guided by the topic rather than holding a traditional face-to-face interview (Grix, 2004). With regards to focus groups, it can be difficult to achieve in the case of China where the participants would have to arrive on the same time, same day for the interview regardless where they are, and travelling in China can be very time-consuming since the country is comparably big.

Interviewing has many advantages as first of all, it can provide information that is not published elsewhere. Secondly, the interviewee can assist in interpreting complex issues. Moreover, the interviewee can provide further contacts (snowball affects) which allow the interviewer get in touch with important people (Grant, 2000; Grix, 2004). As for the drawbacks, the lack of standardisation in interviews may lead to concerns about reliability. If we recall back reliability refers to whether alternative researchers would reveal similar information (Healey and Rawlinson, 1994; Easterby-Smith *et al*, 2002). This concern comes from any bias that may rise in interviews. On the one hand, the bias may rise from interviewer's side because of the interviewer's attempt to impose his own beliefs on the person interviewed, or the interviewer is unable to develop the trust of the interviewee, or the interviewer is not sufficiently knowledgeable about the topic. In addition, it could also be from interviewee's side. The interviewee may be sensitive to questions asked during the interview, so they do not wish, or are not empowered to discuss them (Easterby-Smith *et al*, 2002; Saunders *et al*, 2007). Therefore, the value of information given by an interviewee is very limited or sometimes even wrong. Validity may also be a concern in the sense that the interview will not be able to cover the entire population and, therefore, the accuracy

of the information obtained from the interviews remains in doubt, and this is the situation when a case study strategy is needed (Yin, 2003; Saunders *et al*, 2007).

The research has chosen both case studies and interviews to make sure that the data obtained is up to the level of reliability and validity. In terms of the interview itself, fortunately, there are ways to minimise these issues. The key to a successful interview is careful preparation (Saunders *et al*, 2007). Moreover, the interviewer needs to be knowledgeable about his/her topic in order to obtain the confidence and credibility of the interviewee. In addition, the appearance (e.g. dress) and the behaviour (e.g. listening skills, scope to test understanding) of the interviewer can also affect the data implicitly.

Table 5 – People in interview

Name	Organisation	Occupation
Zhang Dongsheng	Beijing Automotive Industry Holding Co., Ltd	Union leader
Xia Baoshan	Beijing Automotive Industry Holding Co., Ltd	Business operating director
Li Bing	Beijing Automotive Industry Holding Co., Ltd	Plan & product director assistant
Li Xiufeng	Beijing Automotive Industry Holding Co., Ltd	Office director
Zhang Rong	Beijing Association of Automobile Manufacturers	Vice general secretary
Zhang Zhixiong	Beijing Automotive Economy and Management Research Institute	Deputy director
Liu Siteng	Beijing Automobile News	Journalist
Duan Changzhao	Beijing Automobile News	Journalist
Zuo Shiquan	Automobile Research Institute, Tsinghua University	Researcher
Zong Gang	Institute of Recycling Economy, Beijing University of Technology	Professor
Han Guang	China Automotive Industry Economic and Technological Information Research Institute	Vice general secretary

Source: author analysis

In this research, a total of 11 semi-structured interviews have been undertaken including academics, research institutes, news and media, and automobile firms. All interviews were undertaken in Beijing during the period between October and December 2009, and the participants were all native Chinese (Table 5). Participants were required to give their overall views on the development of the Chinese automobile industry.

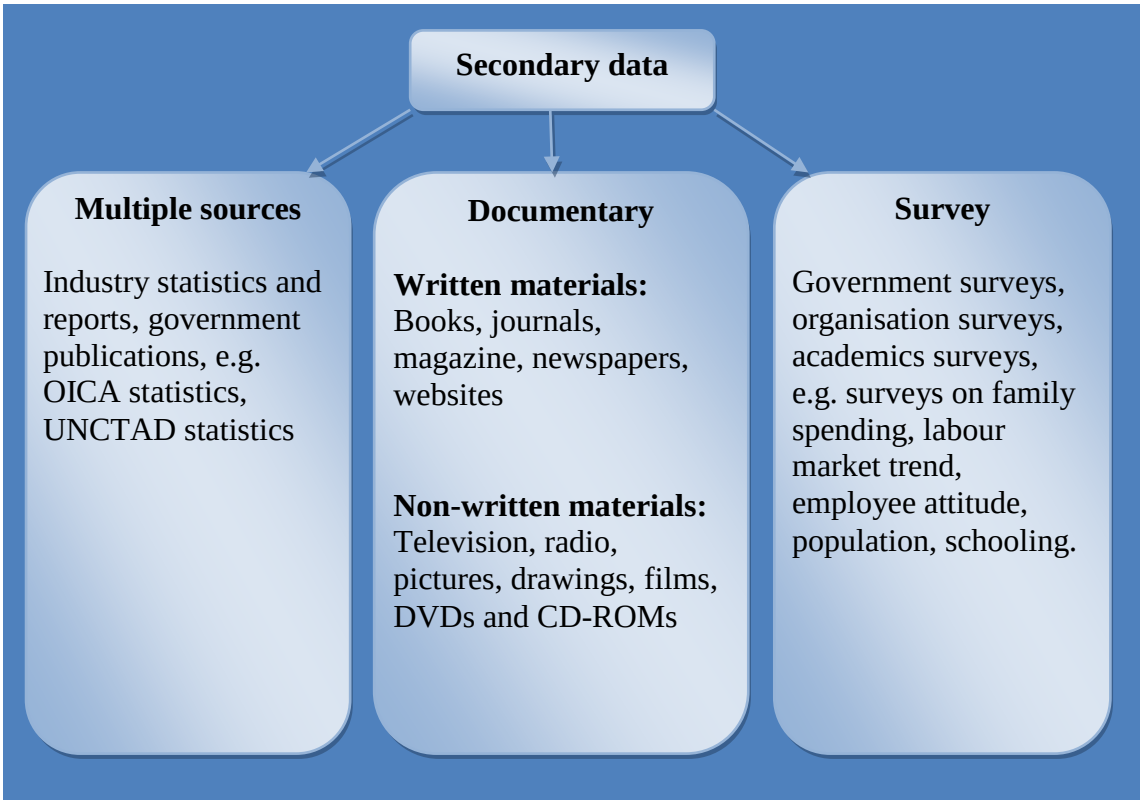
In order to minimise the possibility of bias and raise the accuracy of research findings, several precautions were taken. Before entering the actual discussion of the themes, important issues were explained at the start of each interview to inform the participant about the purpose, scope, and use of information to be provided, assuring confidentiality and anonymity where required. Permission was also requested for recording the interview for reasons of rigour and later analysis, but with the assurance that, whenever intended, the recording may be switched off. Despite the use of a tape recorder, notes were still taken during the interview and all interviews were transcribed to a word document. Finally, all the interviews were undertaken in Chinese and were translated by the author.

Despite all considerations about the advantages and disadvantages of using interviews, given the complexity and degree of flexibility required, the use of this method is adequate to the nature of the research aim and objectives. Interviews have helped the researcher to gain wide knowledge from participators and allowed a much greater depth and flexibility of questioning and exploration of unexpected aspects which raise the level of validity providing findings that more accurately reflect the Chinese automobile industry.

6.2 Secondary data

Data that have already been collected are normally known as secondary data (Saunders *et al*, 2007). Figure 12 presents different types of secondary data. Secondary data may include both qualitative and quantitative data, and they are used in both descriptive and explanatory research. The main advantage of using secondary data is saving in resources such as money and time (Kervin, 1999; Ghauri and Gronhaug, 2005). In general, it is much less expensive to use secondary data than to collect data by yourself. Moreover, secondary data generally provide a source of data that is both permanent and available in a form that can be checked relatively easy by others which means the data and the research findings are more open to public scrutiny (Denscombe, 1998; Saunders *et al*, 2007).

Figure 12 – Types of secondary data



Source: adapted from Saunders *et al* (2007)

In terms of collecting secondary data, there are a number of ways. For example, the author has read books (e.g. *Changing lanes in China: foreign direct investment, local governments, and auto sector development*) and journal articles (e.g. *Journal of International Business Studies*) on the chosen topics mainly through Coventry University library and its on-line database (e-library). In addition, books and articles (including those from e-library) often contain full references to the sources of the data which makes relatively easy to track down the original source. Moreover, there are also quality newspapers (e.g. *Financial Times*) and magazines (e.g. *Economist*) available which allows the author to keep up to date with recent events.

With regards to reliability and validity associated with secondary data, it is normally by looking at how the data were collected and where the data came from, and the quickest way of assessing them would be by looking at the source of the data (Saunders *et al*, 2007). Dochartaigh (2002) refers to this as assessing the authority or reputation of the source. Data from large, well known organisations are more likely to be reliable and trustworthy, and they are generally among the favourite choices for collecting secondary data. In terms of the secondary data collected for this research particularly, they mainly came from three different sources. Firstly, a large amount of books that kept at Coventry University library and written by various academic scholars as well as sources written in Chinese such as Li (1987), Su (1987), Yang (1987), Lu and Zhang (2005), and Tang (2009), together they gave a comprehensive view on the subject. Secondly, government organisations and institutes publications (e.g. IMF, OECD, OICA, and UNCTAD) provided useful gateways for the author to get a wide range of statistical data and reports. Finally, journal articles, newspapers, and magazines used for this research largely came from, for example: *American*

Economic Review, *Economist*, *Financial Times*, *International Business Review*, *International Organization*, *Journal of East Asian Studies*, *Journal of International Business Studies*, *Quarterly Journal of Economics*, *Oxford Economic Papers*, *Strategic Management Journal*, and *Transnational Corporations*.

6.3 Case studies

Case studies can be developed by using both primary and secondary data. According to Yin (1981), the distinguishing characteristic of the case study is that it attempts to examine a contemporary phenomenon in its real-life context, especially when the boundaries between phenomenon and context are not clearly evident. Compared with other methods, one of the strengths of a case study is its ability to examine, in-depth, a case within its real-life context (Yin, 2004). Moreover, according to Shavelson and Towne (2002), a case study is best applied when it addresses either descriptive (what happened?) or explanatory (how or why it happened?) questions and aims to produce a first-hand understanding of people and events.

However, case studies have been under criticism, and the critics mainly focus on two issues: to what extent the method can generate a piece of data which yield high validity, and the concern on generalisation of this method (Thomas, 2004). With respect to the former criticism, Stoecker (1991) argues that concerns over validity are not something only restricted to case studies but all forms of social research approaches, and even carefully designed and conducted laboratory experiments cannot be guaranteed with a high validity. Moreover, Bromley (1986) and Yin (1994), form another aspect to defend the value of case studies, suggest that triangulation (e.g. using multiple cases if possible) is an efficient way to strengthen the validity of the case study. In terms of the latter criticism, there have been several scholars who have

responded to it: Stake (1994) refers to case study research as particularisation rather than generalisation, and March *et al* (1991) states that it is possible to learn something, even from a sample of one.

A statement from Thomas (2004: 132) vividly explains the role of case study, "strictly speaking, we cannot generalise at all from a case study; however, it certainly seems reasonable to generalise from a sample of one to a population of identical cases or near-identical cases, reports of road tests of the latest model of a car is an example of this kind." In order to gain a detailed view on the development of the Chinese automobile industry, case studies were undertaken. As mentioned earlier in chapter 1, automobile firms in China mainly operate in three different forms: state-owned, international JVs, and private. The research has decided to select one firm each from three different operation forms to analyse them. The precise rationale for each of the case studies chosen is provided in chapter 6.

7. Significance of the research

The automobile industry has been at the core of China's plan to develop a modern economy, and it is among the pillar industries (e.g. aerospace, telecommunications, and petrochemicals). The industry has an enduring appeal for developing countries like China, in part because it is often thought to be a symbol of a modern economy, but more importantly, because it serves as the centre of an integrated industrial structure to create wealth: extensive forward and backward linkages create the potential for a substantial positive spill-over effect (Thun, 2006; Chin, 2010).

In China, the firms that grew so rapidly during the first twenty years of the reform period were usually small and medium sized firms producing shoes, clothing, toys, tools, and lighting fixtures – anything regarded as relatively low-tech and inexpensive.

While these flexible, market-oriented firms fuelled an export boom in China, but they were unlikely to develop into the powerful, technologically advanced firms that Chinese leaders hoped would be both the backbone of a modern economy and the nation's representatives in the global economy. Firms of this sort, while tremendously successful at competing on the basis of costs, had difficulty moving away from commodity production and into the higher value-added activities of the globally branded multinational corporations. They will not be national champions – Chinese versions of General Motors, Volkswagen, Sony, Samsung, and Microsoft – even given time (Thun, 2004).

Large firms were thought to be the core of the developmental state, the key element in the economic miracles of neighbouring Japan and South Korea. These models of state-led growth (discussed in chapter 2) were highly influential in Beijing during the early 1990s. Rather than support the development of massive, diversified business group in the image of the Korean *Chaebols*, the emerging approach is to support large firms in pillar industries. Thus, the automobile industry becomes relevant because it has been consistently targeted by the central government for development, and it is a classical example of Chinese efforts to develop pillar industries in manufacturing. The industry has an enduring appeal for developing countries because the broad supply network creates extensive linkages with other sectors and because the assembly firms that dominate the industry are seen as symbols of a modern industrialised economy.

Moreover, the automobile industry is appropriate because it has encompassed both domestic and foreign economic and decision processes. Furthermore, major investments were made particularly in the past 30 years by firms from several nations such as France, Germany, Japan, South Korea, and US, facilitating some cross-

national comparisons. Finally, FDI is probably one of the most distinct forms of globalisation; therefore, by studying the Chinese automobile industry, we will have a better view of how the Chinese economy is becoming more integrated with the rest of world. All in all, this research adds to this important field of research by examining the development of the Chinese automobile industry.

8. Summary

This chapter discussed terms related to the nature of knowledge and development of that knowledge. “The knowledge development may not be as dramatic as a new theory of motivation, but even if the purpose of the research has the relatively modest ambition of answering a specific problem in a particular field, it is, nonetheless, developing new knowledge” (Saunders *et al*, 2007: 101). The key differences in these two main philosophical approaches (interpretivism and positivism) arise from their different conceptions of human beings and how their behaviour can be understood. These conceptions also reflect different ontological assumptions about the nature of the world. Positivism argues that people and things are sufficiently similar for them and therefore both should be studied in the same way. They argue for the unity of science, claiming that there is but one path to a scientific understanding of the world. In contrast, interpretivism argues that while positivism may be an appropriate epistemology for the natural world, it is inadequate for the understanding of the human world. The research adopted interviews and case studies as research strategies and explained the strengths and limitations of both in relation to validity and reliability. To sum up, there are no single perfect research strategies, but ways to make them work better.

CHAPTER FOUR – GLOBAL AUTOMOBILE INDUSTRY

1. Introduction

"The automobile industry is often considered as one of the most global of all industries. Its products have spread around the world and it is dominated by a small number of firms with worldwide recognition" (Humphrey and Memedovic, 2003: 2). This chapter features global automobile environment and its key function is to provide a brief background to chapters 5 and 6 to further contextualise the later discussion of the Chinese automobile industry.

This short chapter begins by looking at the physical growth in automobile production since 1950 and changes in the geographical distribution of production because it is certain that the future of the industry will increasingly involve emerging countries (e.g. Argentina, Brazil, China, and India) located outside the triad economies (e.g. Japan, US, and Western Europe). Secondly, the chapter also illustrates geographical expansion of the automobile industry through the process of foreign direct investment by the industry's major producers as they sought to establish global footprints. The geographical expansion of the industry's major firms is viewed by focusing briefly on development of German and US automobile firms and so illustrates how these firms have grown and expanded their operations to become global players with a presence in virtually every continent and all market segments. Thirdly, it discusses the trend towards industrial concentration in the industry which was achieved primarily through strategic alliances, mergers and acquisitions and to a lesser degree, the construction of Greenfield sites, though the latter is not relevant in the case of China. Fourthly, this is followed by brief discussion on the global automobile components industry to show that the major component firms, too, indulged in FDI as they followed the assembly

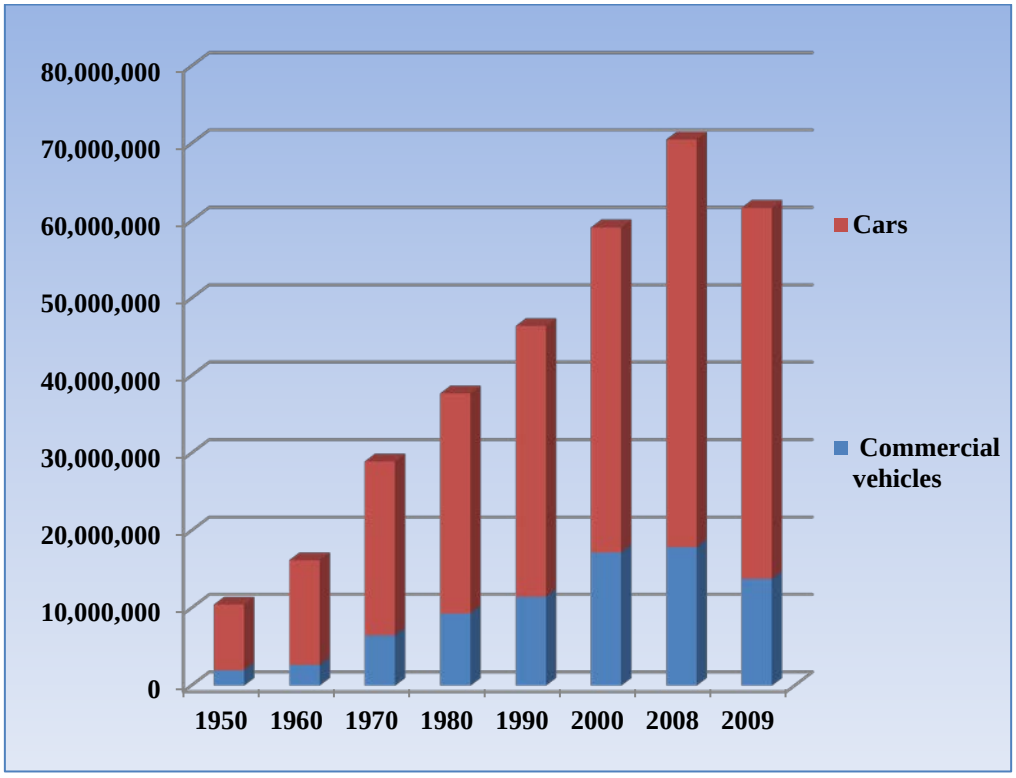
and manufacturing firms into new markets. Then, the chapter analyses the global automobile industry regarding regional integration by focusing on activities of major automobile firms in the increasingly integrated markets of Europe and Asia. Finally, the discussion turns to changes in technologies as the automobile industry progresses by showing how the market has fragmented and how this has been made possible by the moves from craft to mass and to lean production. This is important because such change has enabled the production of an increasingly large number of models and variants.

2. Growth of the global automobile industry

Global automobile output has increased rapidly since the second half of the last century. Figure 13 below shows the world automobile industry made over 70 million cars and commercial vehicles in 2008 and that is seven times more than the total production figures in 1950 (SMMT, 2006; OICA, 2009). If automobile manufacturing is considered as a country it would be the sixth largest economy in the world (OICA, 2007b). By being part of the world economy and FDI, the financial crisis of 2008 seriously affected the automobile industry. Total production in 2009 was 61 million units; almost 10 million less when compared to 2008, representing a 12.8 percent decrease (OICA, 2010).

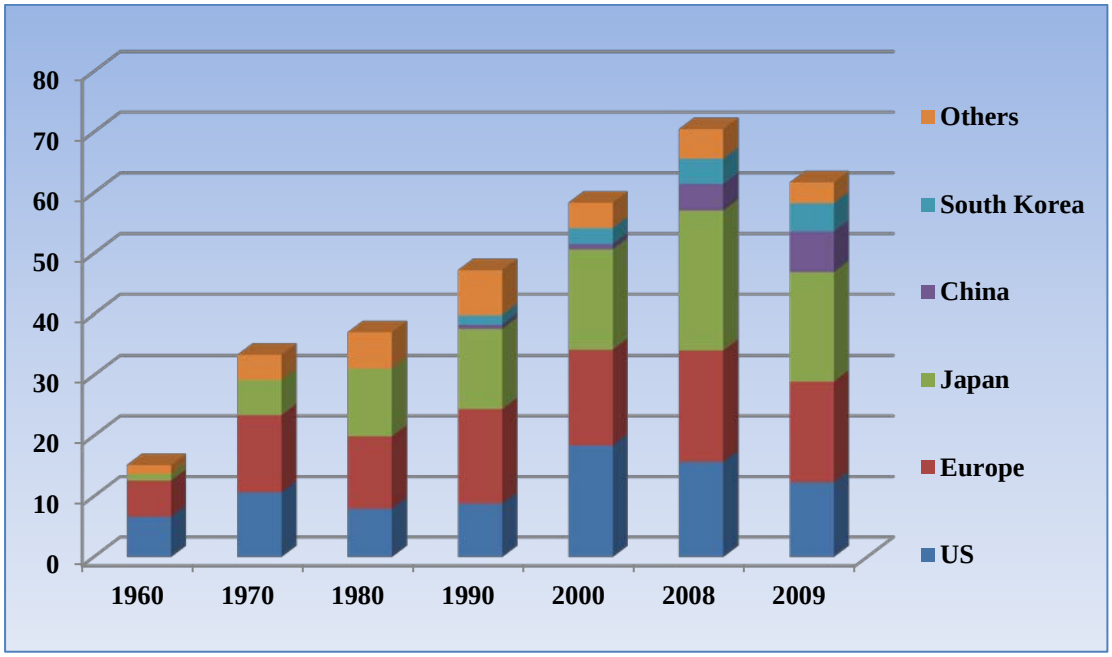
At the firm level, early automobile production traditionally was dominated by US and European firms as shown in Figure 14. There were 15.2 million units produced worldwide in the early 1960s with US firms making a total of 6.7 million, representing 43 percent of total output thanks to its mass production methods (RITA, 2003). The US big three (Chrysler, Ford, and GM) were often regarded as the most successful industrial manufacturing firms at that time because of their economies of scale and, therefore, were often cited as examples of modern multinational firms.

Figure 13 – Global automobile production from 1950 to 2009



Source: adapted from SMMT (2006) and OICA (2010)

Figure 14 – Changes in share of total production of major producing countries from 1960 to 2009[17] (millions of units)



Source: adapted from RITA (2003) and OICA (2010)

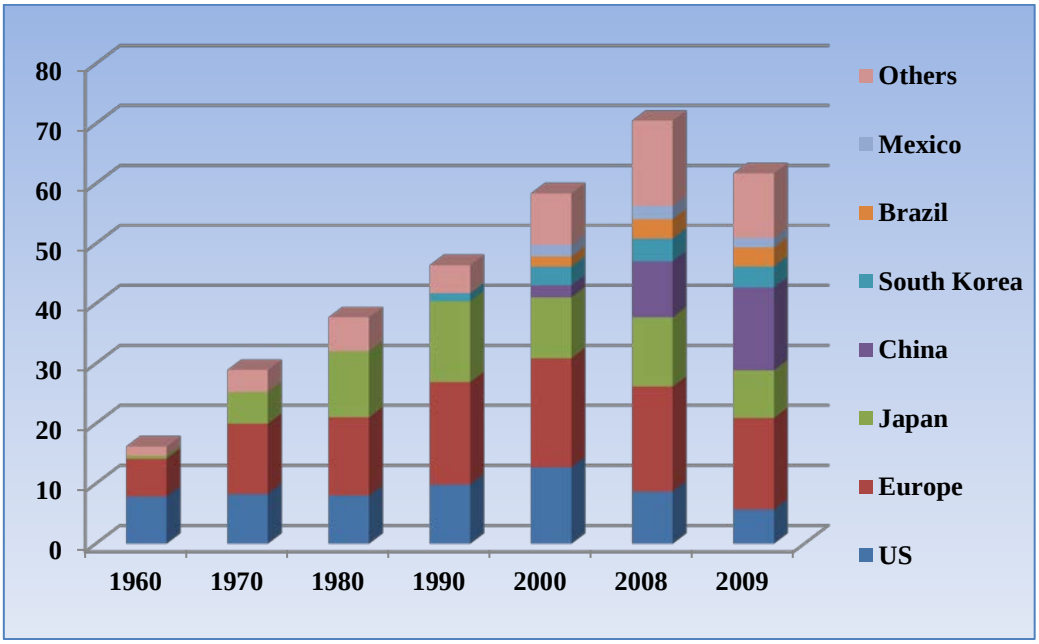
[17] Country of manufacturer is recognised as the producing country.

Starting in the 1970s, Japanese automobile firms began to make an impact on the international automobile market as a new manufacturing method – 'lean production' emerged. Since then, the market share of Japanese-made automobiles has continued to increase. In the 1990s, South Korean firms such as Hyundai and Kia, too, began to make their mark in global automobile industry. Moving on to the new millennium, there are emerging economies such as China and Indonesia, which are starting to make a significant contribution to the industry's development. Recent data (Figure 14) shows that Japan is currently the largest automobile producing nation. Together, Japanese firms produced nearly 18 million units worldwide in 2009, representing 29 percent of total production (OICA, 2010). Compared with just 7 percent at the beginning of the 1960s, such progress was dramatic and admirable (RITA, 2003; OICA, 2010).

The success of Japanese automobile firms is not accidental. Japan's business culture (e.g. the homogeneity of Japanese society, a culture of industrial co-operation, life-time employment, health care, and family settlement) has made employees very loyal and hardworking. Furthermore, 'Lean production' methods gave them huge competitive advantages (e.g. low inventory cost, high working efficiency) over other nations (Dyer and Chu, 2000). While Japan achieved a considerable growth, the US and European firms have seen their market shares decrease over the past 50 years. US firms made 12 million automobiles in 2009, representing 20 percent of total output, while European firms produced around 18 million units, representing 27 percent of global production, a large shrinkage in terms of market share as compared with 43 and 39 percent respectively at the beginning of 1960s (RITA, 2003; OICA, 2010). In particular, US firms suffered as their domestic market matured, which meant that

increasingly demand became replacement rather than 'new' demand, and also from intensive competition through import penetration from European and Japanese firms, a position that was exacerbated by a failure to adapt a more efficient production methods and so meet changing consumer tastes. Figure 14 also shows that emerging economies (e.g. China, South Korea) began to contribute a relatively larger share of global output with both China and South Korea taking 11 and 7 percent of global production respectively in 2009 (OICA, 2010). China became the 4th largest automobile producing nation after Japan, US, and Germany when its automobile firms produced 6.7 million units in 2009[18] (OICA, 2010). Finally, the figure also imparts the impression that the global automobile industry is still concentrated and dominated by large groups like the US, European, and Japanese firms as they still control more than 75 percent of total output.

Figure 15 – Changes in share of total production of major producing countries from 1960 to 2009[19] (millions of units)



Source: adapted from RITA (2003), SMMT (2007), and OICA (2010)

[18] Excludes JV production with foreign partners.
[19] The country of final assembly is recognised as the producing country.

In the 1950s and 1960s, it seemed that the dominance of the US automobile firms was too powerful to be threatened. Since then, the situation has changed dramatically. Not only has the balance of automobile firms shifted as illustrated in Figure 14, so too has the location of automobile production. Figure 15 gives a comprehensive view of how market has changed over the past five decades. According to Figure 15, automobile production in terms of volume in triad economies (European, Japanese, and US markets) has not changed much between 1980 and 2009. Statistics show that the triad markets have just produced 5 million units more over the last 28 years (SMMT, 2007). However, global output has increased significantly. For example, total world output in 2008 was 32 million more than of the total output in 1980. So where did the 27 million extra cars come from? The answer lies in emerging markets. Beginning in 2000, emerging markets like Brazil, China, India, and Mexico have started to show their attractiveness for automobile production and their share of production has increased year by year.

Automobile industries in emerging countries have been transformed by trade and investment liberalisation policies and global expansion of the automobile industry (Humphrey, 2003; Gomes *et al*, 2010). Protective instruments (tariffs, quantitative restrictions, and investment controls) that once shielded automobile industries in emerging countries from international competition were gradually dismantled, even though governments remained active promoters of the industry through investment incentives, local content requirements, export incentives, duty drawback schemes, and tariffs (Goldman Sachs, 2004; Sturgeon *et al*, 2009; Gomes, 2009). At the same time, major automobile firms invested heavily in emerging markets by building new capacity and modernising existing plants (Humphrey, 2003).

Essentially, emerging economies increasingly contributed to the growth of the global automobile industry as they become more and more strategic in terms of location. The world produced 61 million automobiles in 2009, and 13.79 million were made in China alone which makes it the biggest single automobile market in the world, representing 22 percent of the total production and a 48 percent increase compared to production volume in 2008 (OICA, 2010). Putting it in context, China was one of the few countries[20] which experienced output growth despite the global financial crisis (OICA, 2010). In contrast, other emerging economies like Brazil, together with India and Mexico, produced around 11 percent of total world production in 2009 (OICA, 2010). In fact, since the late 1970s, average growth rates of the global automobile industry have been 2 percent per annum, and much of this growth has occurred in emerging countries such as China and India, leaving the traditional centres of the industry with very low or negative growth (Dicken, 2007). As will be discussed below, this trend is partially indicative of how automobile firms have tried to internationalise their operations under the forces of economic globalisation as advanced markets matured and so began to target the market potential in emerging economies.

3. Globalisation of the automobile industry

3.1 Globalisation and foreign direct investment in the automobile industry

Increased globalisation is measured by greater trade flows between countries and, in terms of the spatial extension of production, by foreign direct investment (FDI) flows. FDI takes a number of forms: multinational enterprises (MNEs) building production facilities in overseas host countries, expanding or reinvesting in such facilities, engaging in cross-border mergers and acquisitions, and establishing international

[20] So did India and Iran (OICA, 2010).

strategic alliances or entering into joint ventures with firms from a different country. The automobile industry is replete with examples of each of these types of FDI.

As Freyssenet *et al* (2003) has argued, the automobile industry is one of the main drivers behind the globalisation of world economy. This has been due to firms' internationalisation strategies such as mergers and acquisitions, the establishment of facilities in emerging countries and the international division of labour. According to Nolan (2001), the growing scope and impact of GATT and its successor body – WTO progressively reduced trade protection and limits on international capital flows especially among advanced economies. Moreover, the creation of an integrated European market stimulated trade and capital flows across national boundaries.

However, for much of the period after the WWII, large parts of the world were either excluded from international trade and investment in automobiles or operated with large restrictions on MNEs. In the 1990s, the situation changed dramatically. First of all, most of the former communist economies opened to multinational trade and investment. Secondly, government-led rapid growth in East Asia as discussed in chapter 2 for much of the 1990s plus continuous economic growth of emerging markets (e.g. Brazil, India) in the new century have also allowed the automobile firms to evaluate the opportunities of building production in these economies. "Large parts of the developing world radically altered rules on foreign investment and liberalised imports which have just changed perceptions of the future regional balance of the automobile market" (Nolan, 2001: 507). By the later 1990s, the world's leading automobile firms "had around two-fifths of their assets located abroad, over one-half of their sales abroad and close to one-half of their employment located abroad" (Nolan, 2001: 509).

A key process in the strategic business development of multinational firms and their global expansion was via merger and acquisition as shown in Figure 16. From the late 1980s through to the turn of the century, almost all of the major US, European, and to a lesser extent – Japanese players in the automobile industry were involved in a series of mergers and acquisitions in one form of another. A detailed discussion of all of these is unnecessary and is also precluded by space and so a couple of examples must suffice to indicate the degree and scale of merger and acquisition that occurred.

Figure 16 – Illustrative mergers, acquisitions and strategic alliances in the world automobile industry

Source: Gomes *et al* (2010: 36)

GM, for example, has a long history of acquisitions: two early ones were of Vauxhall from the UK in 1925 and Germany's Opel in 1929 (General Motors, 2009). Firms adopted merger and acquisition (M&A) activities aiming to achieve either economies of scale and scope or access to new markets, segments, and products or access to different knowledge and technology. In the last 20 years GM has swallowed up Sweden's Saab and Daewoo of Korea while signing up Isuzu, Subaru, and Suzuki in Japan by taking key stakes in them in order to share their small car expertise and gain access to the Asian market (Business Week, 2004; BBC, 2009a; Gomes *et al*, 2010). As is common, not all mergers and acquisitions are successful and GM has divested itself of several of the acquisitions made in the 1990s. The financial crisis which took place in the late 2008 made it even more difficult for the US automobile firm (Du, 2009). In 2009, GM announced that it had agreed to sell Saab Automotive to a Swedish sports car firm – Koenigsegg (Jolly, 2009; BBC, 2009a).

Ford, too, is often considered as the "archetypal global firm" (Donnelly and Morris, 2003b: 79). It became a pioneer of the US overseas direct investment not long after its foundation. Its investment in the UK can go back to the early twentieth century and now Ford has plants in countries like Argentina, Belgium, Brazil, China, India, South Africa, Spain, and Sweden (Donnelly and Morris, 2003b). In 1989, Ford took over British luxury automobile firm – Jaguar, and in 1994, it took full control of Aston Martin, it also bought Volvo of Sweden in 1998 and Land Rover in 2000 (BBC, 2000; 2007). Recent years have not been easy for Ford and huge losses were accumulated in the US market. Additionally, it has had to cope with the forces of globalisation as well as challenges brought by Japanese automobile firms (Donnelly and Morris, 2003b). As a result, in 2007, Ford sold Aston Martin to a UK led consortium and in 2008 sold Jaguar and Land Rover to Tata Motors of India (BBC, 2007; Tata, 2008). In 2009, it

sold Volvo to a Chinese automobile firm – Geely (Bonnell, 2009). These sales reflect the crisis faced by Ford particularly in its home market.

The third example is the German automobile firm; VW has used acquisitions to expand geographically, firstly southwards taking over SEAT in Spain and secondly, eastwards, taking over Skoda in the Czech Republic (Pries, 2003; Seat, 2009). Only VW among the German automobile firms has taken advantage of the lower costs of assembling cars in Central Europe: it builds Audi, SEAT, and three types of VW at its plant in Slovakia and also builds various cars in Bosnia, Czech Republic, Hungary, and Poland (Rana and Mowla, 2005). With respect to the luxury market, VW rehabilitated Audi as a prestige brand and in the 1990s bought Bentley – the luxury British firms, and two Italian exotic car firms – Bugatti and Lamborghini (Pries, 2003; Bentley, 2009).

Finally, FDI in China by global automobile firms currently takes the form of joint ventures rather than mergers and acquisitions as the Chinese government insists that all foreign partners in JVs must form a partnership with a domestic firm. For example, BMW, Ford, GM, Honda, Hyundai, Mitsubishi, Nissan, PSA Peugeot Citroen, Suzuki, Toyota, and VW all currently have joint ventures with one or more Chinese partners (Liu and Dicken, 2006; Luo *et al*, 2009; Chin, 2010). The latter include Shanghai Automotive Industrial Corporation (SAIC), First Automotive Works (FAW), and Second Automotive Works (SAW). For example, VW has alliances with SAIC and FAW, Honda and Nissan have alliances with SAW, and GM is allied with SAIC. As the country's automobile industry develops, FDI is no longer a one-way process into China and so Chinese firms have begun to invest overseas in Western firms. For example, SAIC and Nanjing Automobile, have become involved in overseas FDI via

the sell-off of UK's MG Rover after it collapsed in 2005 (Gomes *et al*, 2010). SAIC bought the design rights to the Rover 75 and the Nanjing Automobile acquired MG Rover's assets including the right to manufacture the MG sports car (Gomes *et al*, 2010).

3.2 Industrial concentration of the global automobile industry

As a result of mergers and acquisitions, the international automobile industry has experienced a high level of industrial concentration (Gomes *et al*, 2010). Following the waves of consolidation through mergers and acquisitions, and as a result of the closure of inefficient firms, by the 1960s, nearly half of the world's production was concentrated in just three firms: Chrysler, Ford, and GM, by the early 2000s, Honda, Nissan, and Toyota of Japan together with Hyundai of South Korea had also become major producers of automobiles (Gomes *et al*, 2010).

Moreover, in very recent years, a new wave of cross-border mergers and acquisitions and alliances has accelerated the incidence of consolidation. The outcome was that by the mid-2000s, the automobile production industry was highly concentrated and dominated by a few large firms which had sought to increase their market shares and benefit from economies of scale. For example, the top 15 automobile firms produced 61 million cars in 2009, representing 81 percent of total production (OICA, 2010).

Table 6 – Changes in level of concentration of world automobile, 1985 and 2009

Production volume (millions of units)	Number of firms		Percentage of world output	
	1985	2009	1985	2009
> 9	0	0	0	0
4 – 9	3	5	42.2	47.1
3 – 4	0	2	0	9.8
2 – 3	2	4	11.6	16
1 – 2	8	3	27.8	6.7
Total	11	14	81.6	83.3

Source: adapted from Jetin (2003) and OICA (2010)

Furthering the discussion on industrial concentration, it can be seen from Table 6 that in 1985, three firms[21] produced more than 4 million units each, representing 42.2 percent of world output. By 2009, five firms[22] were producing more than 4 million units individually, and controlling 47.1 percent of global production. Two firms[23] manufactured between 3 and 4 million units in 2009, representing 9.8 percent of total output, whereas there were no firms in this category in 1985. The number of firms which made between 2 and 3 million units rose from two[24] to four,[25] so did the total output percentage, from 11.6 percent in 1985 to 16 percent in 2009 respectively. Eight firms[26] manufactured between 1 and 2 million units in 1985, representing 27.8 percent of world output. By 2009, this was down to just three firms[27] representing 6.7 percent of global production. In other words, automobile firms have tried to maintain their lead by using their economies of scale (e.g. foreign production facilities, strategic alliances) to increase their production units and to take advantage of shifting demand between markets to maintain their profit levels.

3.3 Globalisation of the components industry

Though the components industry does not form a major part of this thesis, it needs to be emphasised that increasing globalisation in the assembly side of automobile construction has been paralleled by a similar process in the components industry as such firms, too, have increased their global footprints (Casper, 1996; Nolan, 2001; Sturgeon *et al*, 2009). There are several explanations for this. Firstly, as emerging economies have industrialised, the major manufacturing firms have seen the

[21] GM, Ford, and Toyota.
[22] GM, Ford, Toyota, Volkswagen, and Hyundai.
[23] Honda, PSV.
[24] Volkswagen, Nissan.
[25] Nissan, Fiat, Renault, and Suzuki.
[26] Chrysler, Renault, PSA, Fiat, Honda, Mitsubishi, Mazda, and UAZ.
[27] Daimler, BMW, and Chang'an.

opportunity of sourcing cheaper components part internationally (Shimokawa, 2002). Secondly, Western component firms have gone further by seizing the opportunity of establishing subsidiaries overseas to take advantage of cheap labour, and frequently these, too, have taken the form of joint ventures (Shimokawa, 2002). Thirdly, governments in emerging economies have welcomed such inwards investment in the hope that the superior experience and production process of the foreign firms will help bring about improvements in their own domestic firms (Gomes *et al*, 2010). This can help with local content requirements and so by improving product quality for both domestic and export markets. Finally, the assemblers who have invested in emerging economies have encouraged their Western/Japanese suppliers to invest overseas as a means of guaranteeing the quality of components which they wish to install in their international factories, especially if vehicles produced were destined for export (Nolan, 2001). Indeed, the activities of Ford's Visteon and GM's Delphi in China are good illustration to this trend.

4. Regionalisation of the automobile industry

According to Freyssenet and Lung (2004a; b), the automobile industry is particularly sensitive to economies of scale; therefore, it has often been one of the more active pressure groups in favour of regional integration processes. Automobile production mainly occurs in regional markets and examples of such markets are the North and Latin American markets, the European market, and the Asian market. For illustrative purposes in this thesis, discussion will be limited to markets of Europe and Asia. The European market, especially under the European Union (EU) Single Market has always been an important market for automobile production as it is a home to a number of automobile giants from France, Germany, Italy, and UK. On the other hand, the Asian market is quite complicated here: first of all, there is an Asian Free Trade

Agreement (AFTA) which includes 10 countries (e.g. Indonesia, Malaysia, and Thailand). Outside the ten as a second group are China, India, Japan, and Korea. Overall, the region has more than 40 percent of world's population which poses a great potential for global automobile industry in terms of demand and FDI (OICA, 2010).

Within Europe, the context for developments in the automobile industry has been provided by the enlargement of the EU and the break-up of the USSR (Gomes *et al*, 2010). The development of EU was one of the factors which stimulated FDI into Europe by Japanese automobile firms, for example, following the UK's accession to the EU in 1973. Honda, Nissan, and Toyota built factories there in the 1980s and 1990s (Gomes *et al*, 2010). The mid-1980s saw the accession of Spain and Portugal to the EU and their subsequent development as locations for FDI from the France, Germany, and US to serve the wider European market (Freyssenet *et al*, 2003). The completion of the Single Market in the early 1990s removed the remaining barriers to the flows of automobile and components within the EU (Civitas, 2010).

With the breakup of the USSR in the early 1990s, Soviet (Russian) automobile firms were privatised and partly sold to foreign investors through investment participation. The fifth enlargement of the EU in 2004 saw amongst others the accession of the Czech Republic, Hungary, Poland, and Slovakia, and these provided a further stimulation for FDI into their automobile and components industries (Van Tulder, 2004; Nunnenkamp, 2004). The outcome of these two events in Central and Eastern Europe is that about a fifth of EU automobile production is located there.

Within East Asia, the Association of South East Asian Nations (ASEAN) was established in 1967, but it was not until 1992 that the ASEAN Free Trade Area

(AFTA) was established (Gomes *et al*, 2010). The aim was to eliminate trade barriers in order to integrate South East Asian economies into a regional market (Gomes *et al*, 2010). Though not members of ASEAN, the three key automobile producing countries in Asia: China, Japan, and Korea, located in north-east Asia, participate in annual summit meetings with ASEAN countries under the ASEAN plus Three process (Gomes *et al*, 2010). Japan, however, dominates automobile production in East Asia not only through its domestic production but also as a result of FDI in factory building across the region. Korea's Hyundai at first concentrated on exporting directly its domestically produced vehicles, but more recently, it has been expanding geographically through FDI (Gomes *et al*, 2010). Recent examples of this are the establishment of factories in the US and the Czech Republic (Gomes *et al*, 2010).

Malaysia has sought to develop its own automobile industry, based on the Proton, whereas Thailand has sought to attract FDI with virtually all the major foreign firms having a presence here (Dicken, 2007). Finally, India, which has the tenth largest automobile industry in the world and a very cost competitive components industry, has opened up its markets to foreign firms (Gomes *et al*, 2010). Several major foreign-owned automobile firms including Ford, GM, Honda, and Renault have factories there, but the industry, however, remains mainly in the hands of domestic firms such as Tata Motors and Maruti, especially in the commercial vehicle and truck segments (Gomes *et al*, 2010).

5. Changing markets and technology

Alongside geographical automobile production shift discussed earlier, the automobile industry has also been marked by a number of phases during which fundamental changes have occurred in the ways in which cars have been designed and

manufactured (Gomes *et al*, 2010). These are usually recognised as a period of craft production followed by mass production as the challenge became to make cars available to the mass market, as demand and willingness to pay for variety grew; lastly flexible specialisation emerged as an alternative to mass production (Hirst and Zeitlin, 1997).

Craft production uses highly skilled workers and simple flexible tools to make exactly what the consumer have asked for – one item at a time (Womack *et al*, 2007). Custom furniture, works of decorative art, and a few exotic sports cars are examples of such production method. However, the problems with craft production are obvious. The failure of craft production to be able to serve the mass market was a major cause of its downfall. Although it still survives on the fringes of the industry, particularly in market for exotic cars, the demand for cheap, reliable cars to satisfy the demands of a growing mass market demanded a new system (Womack *et al*, 2007).

The method of mass production dominated the automobile industry from 1913 to the 1970s. The essential features include: using narrowly skilled professionals to design products, employing unskilled or semi-skilled workforces with little scope to exercise initiative, intense supervision, rigidity, extensive inventories, and elaborate managerial control mechanisms (Foreman-Peck *et al*, 1995). These methods churn out standardised products in very high volume. Thus, efficiency was achieved through producing huge volumes of standardised products with a highly integrated division of labour and single-purpose machinery, exploiting economies of scale and trying to capture significant market share (Boyer and Freyssenet, 1999). However, mass production was not without its disadvantages. Firstly, consumer tastes and external environments began to change in the late 1970s. Customers were becoming

increasingly discriminating in what was becoming a buyer's market where product innovation was gaining pace (Gomes *et al*, 2010). Moreover, after long period of mass production, over-capacity has become a serious problem not only in traditional automobile centres, but also emerging economies (Luo *et al*, 2009). Thus, a new way was needed.

Lean production, pioneered by Eiji Toyoda and Taiichi Ohno at Toyota Motor Company in Japan, allows production of a broad range of automobiles from the same production line, facilitating economies of scope whilst retaining economies of scale (Dyer and Chu, 2000; Nolan, 2001). It enables firms to respond to fast technological changes and an increasing market unpredictability and fragmentation and to produce a wider variety of models through the combination of economies of scale and scope (Scherer, 1996; Womack *et al*, 2007). Given the benefits of lean production over mass production, it is of little surprise that such a method and its variants have been widely introduced, firms around the world have embraced lean production in several variants. However, mass production and lean production can exist side by side and there are still instances of mass production methods being employed, particularly in emerging and other developing countries (Womack *et al*, 2007; Gomes *et al*, 2010). Flexible specialisation has proven difficult to implement in locations where labour is low-cost but also relatively unskilled and employment practices inflexible. Nevertheless, the impact of the rise of Japanese automobile industry was ultimately to intensify the forces of inter-firm competition at global level.

6. Summary

The relatively short history of the automobile industry has been marked by a number of phases during which fundamental shifts in the way cars, in particular, are designed

and manufactured. It was also the last 50 years that we have witnessed the shift of automobile production from triad economies to emerging economies such as Brazil and China, all of which have enjoyed a great deal of automobile development and showed a huge potential. Meanwhile, foreign automobile firms have used various forms of FDI to establish themselves around the world, for example, strategic alliances, mergers and acquisitions, and joint ventures. The increased globalisation as well as the internationalisation of world's major automobile firms has led to the creation and development of several regional markets such as Asia, Europe, North America, and Latin America. Finally, with the increase of scale and scope of major automobile firms through FDI and rationalisation and consolidation of the industry itself, the global automobile industry is indeed concentrated in terms of production. It is to the Chinese experience in this context that the discussion now turns.

CHAPTER FIVE – CHINESE AUTOMOBILE INDUSTRY

1. Introduction

Great interest has been attached to emergence of China's domestic automobile industry under the economic reforms that have taken place over the past three decades. The Chinese automobile industry has undergone dramatic changes which have paralleled the country's overall economic performance. The function of this chapter is to analyse the growth and development of the Chinese automobile industry within the context of the global industry's development (chapter 4) through a historical time line, answer the research questions set earlier in chapter 1 and explore how FDI and governments have guided the development of the industry. In particular, two key questions are asked. Why did the country need FDI in the automobile industry and how did it work? How have governments (national and provincial) played their developmental role to guide the industry?

Firstly, the chapter looks briefly at the rise of the automobile industry in emerging economies and the role of China – the largest emerging economy in the automobile industry. Secondly, it reviews the historical development of the Chinese automobile industry for the last 60 years to impart a better understanding of the context of the industry and to explain the emergence of and the need for foreign investment particularly in the reform era. China's automobile development has not been straightforward and it has gone through different stages which are normally categorised as *closed*, *transition*, and *development* periods. Each period is studied in detail. Finally, the chapter discusses the current development of the industry with regards to FDI, the role of government, and industrial clusters.

2. Rise of automobile production in emerging economies

With near-stagnant markets in Japan, US, and Western Europe, attention in the global automobile industry has turned towards emerging economies. Figures, given by Zhang Dongsheng in 2009,[28] further explained the situation: automobile ownership in developed countries is generally between 450 to 500 units per thousand of the population; in contrast, in emerging countries such as China, the ownership of per thousand persons is only around 24 units; therefore, there is a huge future market potential.

Table 7 illustrates the relative growth of the automobile production in emerging countries since the 1970s as compared to industrialised countries. While global automobile production has increased considerably over the last three decades, more than half of this growth has come from emerging countries, and the majority of the automobiles produced in emerging countries serve local rather than export demand (Mukherjee and Sastry, 1996; Sturgeon and Florida, 1997; Luo *et al*, 2009).

Table 7 – Evolution of world's total automobile production

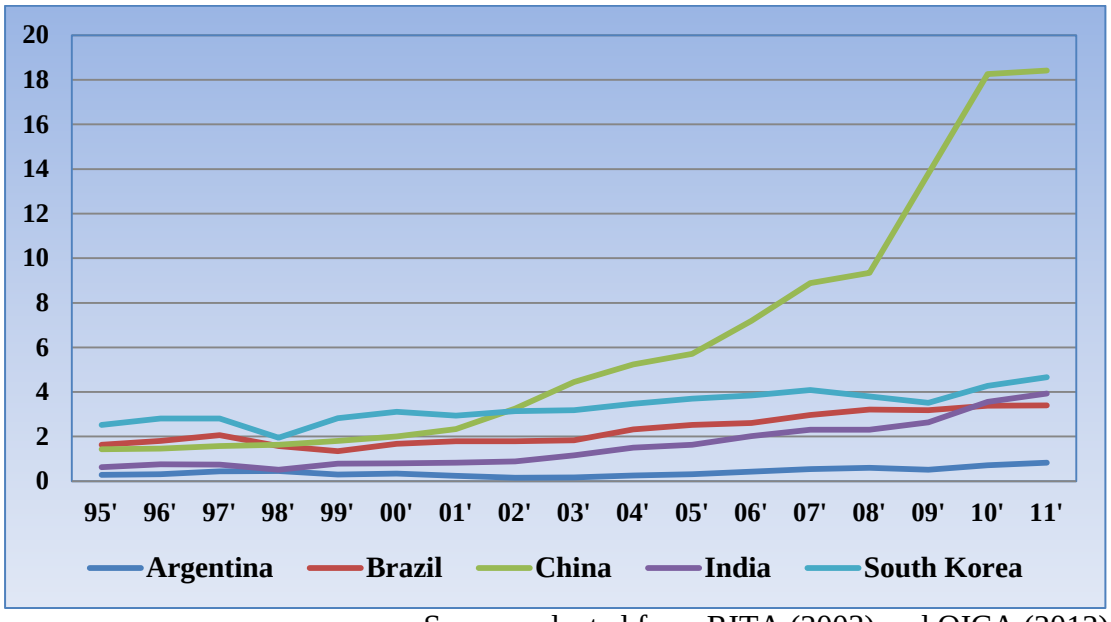
	1971	1980	1990	1995	1997	2000	2001	2002	2003
World automobile production (m)	26.45	28.61	36.27	36.07	38.45	41.23	39.97	41.22	41.78
% of world automobile production (Industrialised countries)	90.9	89.9	87.8	82.0	73.4	74.9	75.3	72.3	70.1
% of world automobile production (Emerging countries)	5.1	7.7	8.7	15.1	17.3	17.2	18.0	21.4	23.5

Source: adapted from Hong and Holweg (2005)

[28] Interview with Zhang Dongsheng, union leader, BAIC: Beijing, November 2009.

Within emerging countries, arguably the five most representative countries are listed below in Figure 17 which shows the development of automobile production in selected emerging countries. Argentina has experienced the least growth in production since 1994, whereas Brazil, India, and South Korea have all enjoyed a steady growth over the past two decades. More impressively, China has moved from a third place in the early 1990s to forge well ahead of the others in 2008 with a total automobile production of over 9 million which was almost equal to the total production of the other four economies combined. Look at another way, China produced 13 percent of a total global output of 70 million vehicles. Moreover, even during the 1997 Asian financial crisis when countries like India and South Korea saw a decline in automobile production, China continued to expand. Finally, since China's access to the WTO in 2001, growth has been even more rapid.

Figure 17 – Total automobile production in selected emerging economies, 1995 – 2011 (millions of units)

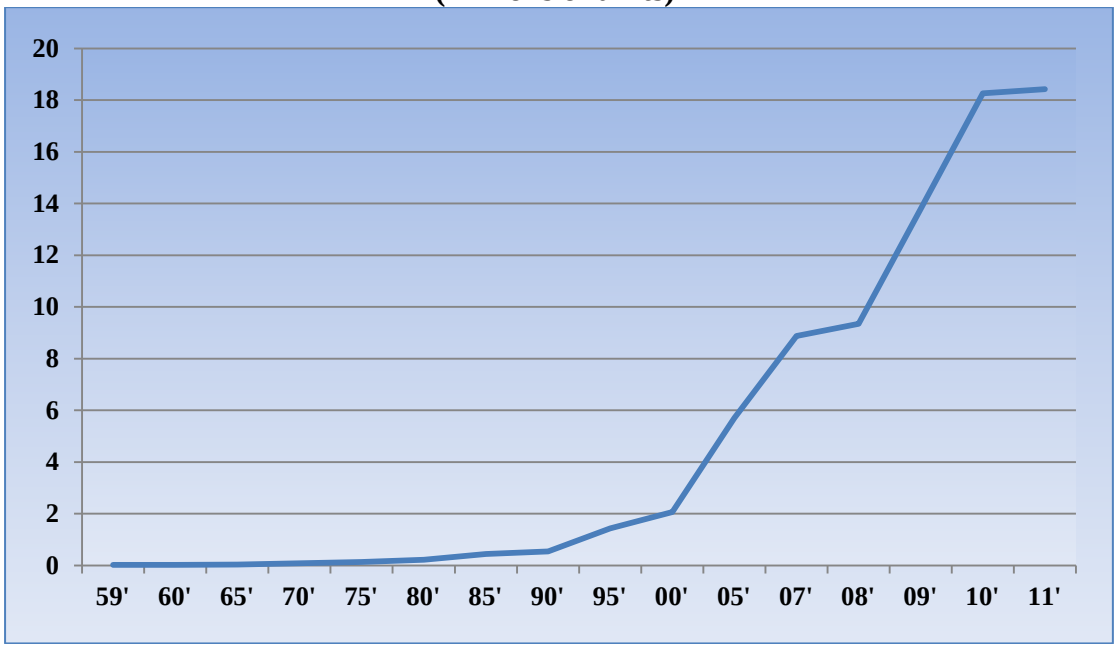


Source: adapted from RITA (2003) and OICA (2012)

In the first decade of the twenty-first century, China's automobile production rose sharply, reaching 18.26 million units in 2010 (Figure 18), surpassing Japan and the

US to become the biggest automobile market in the world (OICA, 2010; 2012). This occurred though when most of the world's markets (e.g. US) were shrinking as a result of global financial crisis of late 2008. Thus, again, the country showed its huge potential in developing its automobile market.

Figure 18 – Chinese total automobile production between 1959 and 2011 (millions of units)



Source: adapted from Yang (1995), RITA (2003), and OICA (2012)

The rapid expansion of the Chinese automobile industry has attracted much attention. Questions may be raised: What did the industry look like before? What has China achieved to come this far? How many firms are now operating in China, who are they and where are they located? How are domestic firms responding to competition brought by foreigners? What are the main challenges and opportunities for both Chinese and non-Chinese automobile firms? How sustainable is the industry's growth, and what are the implications of such rapid growth? These topics are discussed in the remainder of this chapter.

3. An overview of the Chinese automobile industry

According to Luo *et al* (2009: 9), "the development of the Chinese automobile industry has clearly been shaped by the circumstances of China's political economy.

To review the development of the industry, it is important to understand its evolution within the context of China's industrialisation which has been centrally driven and shaped under very distinct industrial polices." In this section, the review of the post – 1949 development of the Chinese automobile industry is divided into three stages including: closed period (1949 – Late 1970s), transition period (Late 1970s – Mid 1990s), and development period (Mid 1990s – 2004).

Before moving on to discuss the Chinese automobile industry's development after 1949, it is important to know what was going on before. According to Harwit (1995), the first automobiles arrived in China in 1901, and ran mainly in the city of Shanghai; by the mid-1920s, there were nearly 8,000 automobiles in China, and many were owned by foreign residents in major cities, American models predominated at that time; by the mid-1930s, there were about 25,000 passenger cars in China and nearly half of them were in Shanghai.

During the 1930s and the 1940s, a handful of small-scale bus and cargo truck chassis production plants appeared; however, there was no significant production of complete automobiles in any part of the country until economic recovery began after the new China was found in 1949 (Chinese Automotive Industry Yearbook, 1984; Harwit, 1995). The main limitation to expansion of automobile production or even to establish an automobile industry during the early twenty century was largely the result of unstable political conditions[29] inside and outside of China.

3.1 Closed period (1949 – late 1970s)

The People's Republic of China was established on 1 October 1949 after 3 years' of civil war between Communist and Kuomintang (Degen, 2009). After the Communists,

[29] For example: Xinhai Revolution (1911 – 1912), Warlordism (1916 – 1928), War against Japan (1937 – 1945), and Civil War (1946 – 1949).

led by Mao Zedong, came to power, the government felt the need to establish its own automobile industry. The reasons behind are easy to understand. Firstly, an automobile industry was seen as a tool for helping to revive the nation's economy as it would generate employment and lead to the development of supporting industries in component manufacturing and accompanying services. Secondly, mechanised trucks were considered vital to agricultural development, which was China's main industry at the time and agrarian produce was essential to feed an expanding population. Thirdly, with the advent of the Cold War and possible security threats to China from several fronts, an automobile industry was needed to enhance military mobility and capacity and so firms such as the Second Auto Works (SAW) were established in remote regions for reasons of strategic security and this goes some way in explaining the early stages of fragmentation in the industry (Harwit, 1995).

In the early years of the country's establishment, China's main alliance was with the Union of Soviet Socialist Republics (USSR), which provided assistance with many large projects between 1950 and 1960. One such project was China's First Automotive Works (FAW) (Chen, 2008; Luo *et al*, 2009). In 1951, the government chose the northeast Chinese city of Changchun (Jilin province) as the site for FAW. The area was chosen for a number of reasons: first, it was relatively close to the USSR's border; second, the area "possessed a high concentration of railway lines in the aftermath of Japanese occupation since the early 1930s" (Harwit, 1995: 17). Therefore, it had a reasonably good infrastructure to support modern industry.

The FAW officially opened in 1956 by first producing Soviet model 'ZIS 150' (later renamed 'Jiefang' or 'Liberation') trucks (Szuprowicz and Szuprowicz, 1978; Walter, 2003; Luo *et al*, 2009). It was soon followed by other automobile firms being

established in other industrialised cities such as Beijing and Nanjing. For example, Beijing Automobile Works (BAW) and Nanjing Automobile Corporation (NAC) were both established in 1958 (NAC, 2010). By the mid-1950s, the need for passenger cars was at last recognised by the Beijing government, and in 1958, FAW began producing its first model – Hongqi (Red Flag). This was a high specification vehicle and based on Daimler Benz's model 220, and used by senior Chinese officers (Harwit, 1995; Luo *et al*, 2009). The private ownership of cars was forbidden.

During the 1960s, circumstances inside and outside of China changed dramatically. First of all, relationships with the USSR deteriorated and in August 1960 came the Sino-Soviet split (Guo, 2007). In consequence, the USSR withdrew 1,390 experts, terminated 3,343 contracts, and ended their economic assistances (Harwit, 1995). This was followed by a border conflict with India in 1962 (Harwit, 1995; Guo, 2005). In 1965, China became involved in Vietnam War (1959 – 1975). As part of the war effort, the Second Automotive Works (SAW) (also known as 'Dongfeng'[30]) was founded in a relatively isolated mountainous region of Shiyan[31] (Hubei province, central China) (Harwit, 1995; Luo *et al*, 2009). The SAW was to put into practice the ideals of the government inspired autarkic policy of self-reliance, and its success was to be dependent on technology and experiences of other domestic Chinese manufacturers and suppliers without the need of foreign assistance. Although the firm's foundations in Shiyan were laid in 1967, it was not fully operational until 1975. Delays were due to the result of economic and industrial turmoil created by the Cultural Revolution (1966 – 1976). In the late 1960s and early 1970s automobile

[30] According to Luo *et al* (2009: 11), "the name 'Dongfeng' means 'east wind', which relates to Mao's famous saying of 'the east wind overwhelming the west wind', which he made in Moscow in 1957. The name 'east wind' has also a mythological meaning, as during Han Dynasty, when China comprised of three countries that were frequently at war, an easterly wind helped defeat an invading army, and is considered to bring good fortune ever since."

[31] The region is so remote and is considered that "not even a guided missile could hit it" (Zou, 1989: 6).

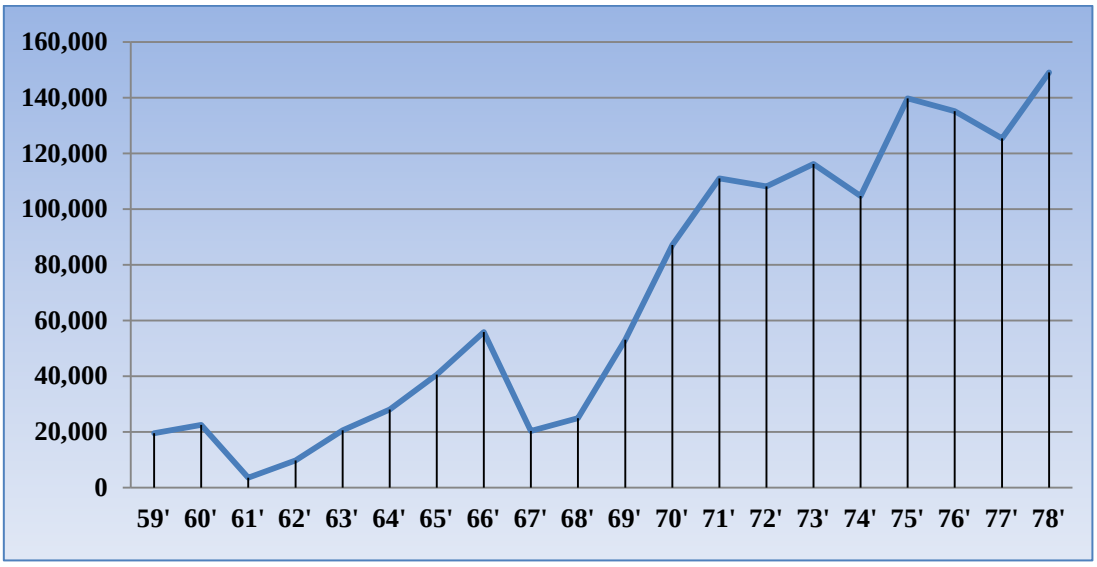
development in China was governed by Maoist principles which were based on Marxism-Leninism. The industry's general aims in such revolutionary times included the development of domestic grass-roots production bases in each province to avoid dependence on foreign technology and production systems, while designing Chinese model vehicles which were better suited to local conditions (Pradhan, 2010). The government excluded any meaningful foreign investment in the automobile sector and tightly controlled exchanges of technology (Harwit, 1995).

Figure 19 shows automobile production during the closed period. Although the production volume increased more than 7 times in just 20 years (1959 – 1978), there were fluctuations in production levels (e.g. between early 1960s and late 1960s). Moreover, considering the country's population in 1978 was almost 1 billion, only around 150,000 units were produced annually and these were mainly targeted at government officials and senior civil servant; private ownership of cars was still very rare (Huang, 1997; Central People's Government, 2008). This indicates that the country still offered great market potential and that the automobile industry needed further development. However, with the lack of technology and tense political environment surrounding China internally and externally during this period, the government found it very difficult to realise its ambitions and so policy largely failed.

By the 1970s, both the political and economic environment in China had begun to change. For example, China re-joined the United Nations (UN) in 1971 and China – US relations were normalised in 1978 (Guo, 2007). More importantly, at the Third Plenum of the 11th Chinese Communist Central Committee in 1978, following Mao's death, Deng Xiaoping who was willing to change China from a planned economy to a more market-oriented economy was endorsed as *de facto* leader (Guthrie, 2009). The

government realised it had to reinstate many technological experts who had been exiled internally during the Cultural Revolution to positions of authority, and again saw a need to obtain foreign cooperation and investment to advance their automobile industry (Harwit, 1995; Chin, 2010). The period after Mao showed an accelerated degree of interaction with foreign automobile firms as the country started to open up.

Figure 19 – Chinese automobile production between 1959 and 1978



Source: adapted from Yang (1995)

3.2 Transition period (late 1970s – mid 1990s)

This period was characterised by a noticeable growth in the Chinese automobile industry, and the year 1978 was set as the beginning of a new stage as the Chinese government officially announced the reform and open policy (Li, 2004). The government recognised the necessity of economic growth and development and that of maintaining social stability to underpin its political legitimacy. Therefore, the focus moved from political to economic issues. 'Developing Productive Power' rather than 'Class Struggle' became the dominant concern. In the wake of the political and economic emphasis placed on industrial development following the death of Chairman Mao in 1976, and of a resultant desire to tap the opinions of rehabilitated automobile experts, a discussion of the proper direction for general automobile

development emerged (Luo *et al*, 2009). The transition period was marked by a number of phases: decentralisation, automobile industrial policies (AIPs) of 1988 and 1994, and establishment of international joint ventures (JVs).

3.2.1 Decentralisation

From 1949, the early economic development of the country was rigorously directed under the state planning bureaucracy. As time passed failings such as the damage caused by 'Great Leap Forward' and 'Cultural Revolution' were revealed and so there was little option to modify economic policy, causing the government to realise that it was impossible to place total faith entirely in its Marxist-Leninist state planning apparatus (Harwit, 1995; Wang, 2003; Guo, 2007). Thus, begun in the late 1970s, one of the most salient features of Chinese reform process and development strategy was the decentralisation[32] of a high level of autonomous economic decision making to provincial governments (Lu, 2000; Eun and Lee, 2002; Thun, 2006).

The decision-making authority of local governments and firms was gradually increased over time and was backed up by a considerable degree of regional/local control over fiscal policy (Morrison, 2009). For example, under the policy of fiscal decentralisation, the fiscal responsibilities of each province were formalised in a contract signed with the central government under which revenues raised above an agreed sum could be retained at the local level (Shirk, 1993). This system was duplicated at each level: between provinces and prefectures, prefectures and counties, and between counties and townships (Oi, 1992).

[32] Decentralisation can be defined as the process of developing political, fiscal and administrative powers to sub-national units of government (Burki *et al*, 1999).

While locals enjoyed the benefits brought by decentralisation, it also had drawbacks. It might have been envisaged that the reduction of central government intervention would help form an efficient market system. However, local provincial governments set up various forms of interregional trade barriers to stop the export/import of materials to/from other regions by using the administrative powers obtained through decentralisation (Eun and Lee, 2002). Moreover, as provincial governments gained more confidence they began to take on more authority in defiance of the national authority in the knowledge that little would be done to stop them as long as there was no political and social unrest.

Turning to the automobile industry, decentralisation is considered as a major direct cause of the nation's highly fragmented automobile structure. "The decentralisation reforms of the 1980s had developed a large share of fiscal and tax authorities to local governments, giving rise to an explosion in the number of local automobile producers and assemblers: from 58 in 1982 to 114 in 1985" (Chin, 2010: 111). Twenty five out of 31 provinces declared automobile production as a local 'pillar industry'; in addition, provinces built up component industries to support their assembly facilities and rarely allowed the assemblers to source components from beyond their own provincial frontiers (Thun, 2006; Liu and Dicken, 2006). Many of these firms were small, and consequently, of the 124 firms in existence in 1994, many turned out only 10,000 units on average per annum which meant economies of scale were largely absent (Huang, 1997; Chin, 2010). Despite the achievements led by the decentralisation reforms, the Chinese automobile industry was plagued by a number of serious problems, and the foremost problem was the extremely fragmented structure which is

closely related to high unit costs of the production (Thun, 2006). The automobile industry of the early 1990s was characterised by Chin (2010: 111) as:

- Proliferation of plants and fragmentation of investment
- A chaotic situation of ministerial and local approvals
- Duplication in technologically backward projects and outdated technology imports
- Sluggish development of core state enterprises and slow progress in upgrading local content production for foreign-designed vehicle assembly in these core Chinese enterprises

3.2.2 Automobile industrial policy of 1988 and 1994

To remedy the industry's fragmented structure, the government felt it was necessary to stress the need for specialisation and coordination among firms rather than to continue with a legacy of firm self-reliance and sufficiency. As the result, 1988 Automobile Industrial Policy (AIP) was born. The 1988 AIP has two important elements. Firstly, to limit the number of automobile firms and develop national champions, the central government made an effort to rationalise production in the industry by designating FAW, SAW, and Shanghai Automotive Industry Corporation (SAIC) as China's automobile production base (Huang, 2002). After the 1987 designation, the government revised the policy to include three more firms including: Beijing Jeep Corporation, Guangzhou Peugeot, and Tianjin Automotive Industry Corporation (TAIC) (later acquired by FAW) (Harwit, 1995).

This became known as the 'Big Three, Little Three' scheme[33] (Eun and Lee, 2002; Huang, 2002; Li, 2004). The fate of the remaining firms was to be judged mainly by the market. Rationalising the number of firms in an industry and concentrating

[33] In the 1990s, the government again revised the policy to add two more firms – Chang'an Automobile Co., Ltd and Guizhou Aviation Industry Corporation – specialising in subcompact automobile under pressures from the military. Thus the policy became known as 'Big Three, Little Three, and Mini Two' designation (Luo *et al*, 2009).

production in larger and more efficient plants was considered essential in the industry's search for economies of scale and unit cost reduction.

The policy also called for a shift from the production of heavy trucks where supply was sufficient to meet demand to light trucks and passenger cars. In addition, it also called for increasing passenger car output to 40 percent of total automobile output by the year 2000 (Thurwachter, 1989). To achieve this objective, China realised that the cooperation with foreign automobile firms through inwards FDI, would probably hold the key to a rapid increase in production. By the mid-1980s, "the drive to foster a domestic passenger car industry in China had become nearly unstoppable" (Harwit, 1995: 35). The latter years of the 1980s saw the publication of several articles to this effect – Yang (1987) and Li (1987). These two called for accelerated small-car production and it was argued that such vehicles would not only stem imports, but might also develop into an export industry. It was hoped that "the country could emulate the examples of the rapidly developing automobile export industry in Japan and South Korea" (Harwit, 1995: 35). In what was perhaps a display of national pride, Jiang (1987) argued that bicycles could never truly substitute for passenger cars in moving people within urban areas, and furthermore, no other truly modern country in the world lacked a developed passenger car industry. Yang (1987) analysed the need for steel, fuel, and roads to support an automobile industry and found that China's raw materials and infrastructure could develop only with proper technical aid. Su (1987: 15) summaries these arguments by saying that "without passenger car production, there can be no modernisation of the automobile industry."

In 1994, the central government designated a number of industries as 'pillar industries' including: automobile, telecommunication, transportation, construction, electronics,

machinery, petroleum, and chemical production in order to drive the national economy (Eun and Lee, 2002). The automobile industry was among the pillar industries and the reasons for this are easy to understand – an automobile is composed of around 10,000 parts and components. Therefore, it is related to many other industries such as metallurgy, petroleum, chemistry, coal, light, electronics, plastics, glass, and textiles (Thun, 2006). The pillar designation of the industry was intended to encourage many Chinese firms across its various sectors to specialise and better co-ordinate their efforts, and so help to drive the country's industrialisation process.

The 1994 AIP aimed to "promote rational competition, reap economies of scale and exploit coordinative specialisation" (Lu and Tang 1997: 78). It stipulated that "the central government would support the development of a few national champions, in other words, rationalising the production system was the most salient feature" (Eun and Lee, 2002: 8). In general, it had four key objectives (see also Table 8):

1) To establish large-scale groups of passenger car and light truck producers
2) To improve the components industry
3) To create automobile product development capabilities
4) To encourage individual car ownership

The policy also considered issues such as conditions for the approval of foreign investment, local content requirements, more stringent safety, pollution-control, and energy-saving regulations for automobile and gradual implementation of international automobile safety and environmental protection approval standards (Xing, 1997; Wang, 2003). The 1994 AIP outlined the development of the Chinese automobile industry in short to medium term and was amended in 2004 (Luo *et al*, 2009).

Table 8 – 1994 AIP overviews to 2010

Stage	Description
1996-2000	The government would support industrial consolidation into 2-3 large, national automobile groups (annual production capacity of 300,000-500,000 units each), 6-7 key automobile firms and 8-10 internationally competitive motorcycle firms. Moreover, the target output for 2000 was 2.7m units, and of which 1.35m were passenger cars. Consolidation of existing 3000 components firms into 300 firms, which would serve as major domestic suppliers.
2000-2010	The government would support formation of 3-4 large, internationally competitive conglomerate groups (annual production capacity of over 1m units each) and 5-10 internationally competitive component groups. Moreover, the target output for 2010 was 6m units, and of which 4m were passenger cars.

Source: Xing (1997), Luo *et al* (2009), and Chin (2010)

In order to meet the target set by the 1994 AIP, a package of measures was introduced. The AIP announced that, beginning in 1996, the 8-9 groups (Table 8) in the two categories of 'large national groups' and 'key firms', and that were willing to raise their local content[34] to government required levels, would qualify for differentiated rates of preferential support in the following areas (Chin, 2010):

- Exemption of adjustment taxes in fixed-asset investment
- Priority access to bank credits and loans
- Priority arrangements in utilising foreign investment
- Priority arrangements in share issues and stock market listings

To support advances in research and development (R&D), the 1994 AIP provided a set of growth allowance incentives that were specifically linked to the capacity and willingness of the leading automobile firms to make R&D investments. "It was also stipulated that firms with annual output of over 300,000 units in 1995 and willing to allocate not less than 3 percent of sales revenues for R&D would receive central government support to expand their scale of operations to more than 600,000 units by

[34] The government required the development of the automobile to have a local content of 60-80 percent (Luo *et al*, 2009: 14).

the year 2000. Firms with output over 150,000 units in 1995 and willing to reinvest 2.5 percent of their revenue into R&D would receive government support to reach unit output of over 300,000 by 2000" (Chin, 2010: 112-3).

One of the key differences between the 1988 AIP and the later 1994 AIP was that components firms received significant attention in the latter (Marukawa, 2006; Chin, 2010). The government recognised modern and complete local component production capacity was crucial for developing its own national car brands. The 1994 AIP listed 60 automobile component firms, on the basis of technology level and suitability for mass production, for preferential development (Xing, 1997). These firms were divided into three groups as shown in Table 9: groups 1 and 2 consisted of 25 key automobile components firms, specific to the passenger car industry and group 3 consisted of firms that had long been producing domestically but not on a mass scale (Xing, 1997). For these 60 firms, the government promised to provide funds and encourage foreign participation in their development.

Table 9 – 1994 AIP on component firms

Although various policies have called for rationalisation; however, the central government found it difficult to implement any such policy and has run into a number of obstacles. While the growth of the automobile industry has been impressive, the government's goal towards consolidation has been a failure (Huang, 1997; 2002).

Table 10 shows that the 1.45 million production units in 1995 were spread among 122 automobile assemblers and the average unit production was only about 12,000

vehicles. Moreover, this illustrates just how small many firms were. For example, seven firms in China controlled only 28.7 percent of the total number of the assembly plants and 7.5 percent of components plants.

Table 10 – Seven major firms in the Chinese automobile industry, 1995

Table 11 – Concentration ratios of the automobile industry: three-country comparison (%)

The under-capacity utilisation of the Chinese major automobile firms may be best illustrated by a comparison with other countries as shown in Table 11. The concentration ratios of firms measure the shares of production by the top firms in the same sector of each country. The time periods chosen aim to highlight the status and the changes in the industrial structure during comparable stages of automobile development in these three countries. According to Table 11, there are two clear contrasts between Japan, South Korea on one hand and China on the other. One is that across one to three-firm ratios, the Chinese automobile industry became more and more fragmented as the time went on. For example, in 1985, the three-firm ratio was 43 percent in China but it declined to 33.3 percent in 1995. Secondly, in Japan and

South Korea, automobile industry became more concentrated over time while in China, the opposite was true. For example, the two-firm ratio in both Japan and South Korea in 1975 achieved more than 60 percent, while the top two Chinese automobile firms in 1998 did not even achieve half of what Japanese and South Korean firms did 20 years earlier (Huang, 2002).

The main reason for such failure is bound up in the centre-periphery relations between the central government and the provinces (Donnelly *et al*, 2010). Structurally weak firms were located primarily outside the major cities and even though output from many of these firms was small, the regional and provincial governments were reluctant to close them down and, indeed, were more intent on expanding them. It is, not as if such small firms were specialist producers. No matter how weak these firms were, they were often kept going through various forms of local protectionism such as soft loans and easy credit from local provincial banks as well as local government purchasing to ensure a market (Donnelly *et al*, 2010). Additionally, local protectionism provided employment generation, the development of provincial supply chains as well as enhancing automobile production as a symbol of economic prestige (Thun, 2006). Basically, when there were so many equal candidates for firm closure, the fundamental question raised: why should one province sacrifice its automobile industry to benefit another? (Donnelly *et al*, 2010) Finally, the central institutional bodies such as the SPB and MMI have been unable to implement regulations and polices across China due to the country's decentralised political management structure.

Moreover, the 1994 AIP also limited the amount of private capital that could be invested in automobile industry. This was intended to preserve state control and prevent from further industrial fragmentation, but it may well have precluded a more

entrepreneurial approach to the industry's development.[35] As shall be discussed later in chapter 6, the limitation of private capital into the automobile industry caused various problems for indigenous firms (e.g. Geely). Similarly, Lu and Zhang (2005) criticised the AIP for favouring large state-owned firms and their JVs with foreign firms, which had not proved themselves capable of fostering indigenous intellectual property, design or innovation. They proposed that the government should consider shifting its support to the more dynamic and market-responsible independent firms.

China's dream of building a nationwide effective automobile industry with a small number of large, internationally recognised automobile firms was hindered as regional boundaries got stronger through decentralisation (Xing, 1997). Liberalisation by the central government to forge linkages with the global economy was and is often frustrated by local autonomy and by the limits on competition fostered by the local governments instead of allowing market forces to operate may have adversely affected China's plans to develop its automobile industry as quickly as intended. Neither the Chinese market nor the global market can sustain so many small automobile firms and components suppliers which cannot attain economies of scale and thus do not have the capacity to compete successfully in the global economy (Yang, 1995; Donnelly *et al*, 2010). However, given the size of the market as well as being a late developing nation, rationalisation of the automobile industry is a long-term goal and is best achieved step by step. Finally, it needs to be remembered that there are a number of political, economic, and social considerations related to industrial structure, growth and development and employment levels which the Chinese government needs to take into account when deciding the pace of industry

[35] Interview with Zuo Shiquan, Automobile Research Institute, Tsinghua University: Beijing, December 2009.

consolidation and rationalisation such as possible social instability resulting from plant closures and managing the consequent unemployment (Chin, 2010).

3.2.3 International joint ventures

Besides government's decentralisation and automobile policies, the transition period also saw foreign automobile firms coming to invest in China. The market size brought by enormous population and rising middle class incomes encouraged foreign firms to migrate to China and circumvent protective barriers such as tariffs and quotas. International JVs as a mode of entry has seemed a good choice as FDI through international JVs in the automobile industry has contributed to the economic success in a number of ways: first, it created job opportunities for Chinese workers in the JVs; second, foreign firms also benefited the wider economy because the JVs have created a strong source of demand in China for raw materials and components (Gallagher, 2003; 2006; Buckley *et al*, 2007).

The 1994 AIP mentioned earlier imposed localisation requirements on the JVs, which forced foreign firms to use up to 80 percent of Chinese-made parts in their automobiles[36]. Many of the Chinese firms at that time were unable to meet the standards of the foreign firms, so the foreign firms worked together with Chinese suppliers to improve the quality of their products. Once the suppliers learned how to enhance their products, they began to expand production and lower unit costs. Overall, these backward linkages from the international JVs are increasingly contributing to the Chinese automobile industry. By the mid 1990s, the Chinese automobile industry was providing the demand for 5-6 percent of total steel production, 80-90 percent of petroleum products, 14-16 percent of machine-tool production, 50 percent of

[36] The prior local content requirements were abolished after China's access to the WTO in 2001 (Gallagher, 2006).

tempered-glass production, 45 percent of tire production, 15 percent of engineered-plastics production, and 15 percent of paint production (CATARC, 2001).

Examples of international JVs established during this period between domestic automobile and foreign automobile firms were: Beijing Jeep Corporation (BJC), the first Sino-foreign joint venture in the Chinese automobile industry, was formed in 1984 between Beijing Automobile Industry Corporation (BAIC) and American Motors Corporation (AMC), which was subsequently taken over by Chrysler (BAIC, 2009a). This was followed in 1985 when Shanghai Automobile Industry Corporation (SAIC) and Volkswagen (VW) set up their JV – Shanghai Volkswagen Automobile (SVA) to produce VW models (Shanghai Volkswagen, 2010). Five years later in 1990, FAW and Volkswagen established FAW Volkswagen Corporation to produce Audi and Jetta; two years later, SAW set up a joint venture with France's PSA to produce Citroen models in 1992 (Citroen, 2009; FAW Volkswagen, 2010).

The 1994 AIP's approach towards to FDI in China's automobile industry had two key elements. First, the policy maintained the requirement that foreign automobile firms could only invest in assembly production in China through a JV, and that the Chinese share could not be less than 50 percent. Why did the Chinese government maintain this ownership arrangement? The answer is that the 50/50 ownership was hoped to ensure technology and other know-how transfers. More importantly, the Chinese government wanted to maintain its power and influence to steer and guide the development of the industry by ensuring that the industry did not become dominated by foreign multinationals and that a domestically-owned industry would survive alongside joint venture firms.[37] Moreover, requiring shared ownership in the Chinese

[37] Embedness of the developmental state.

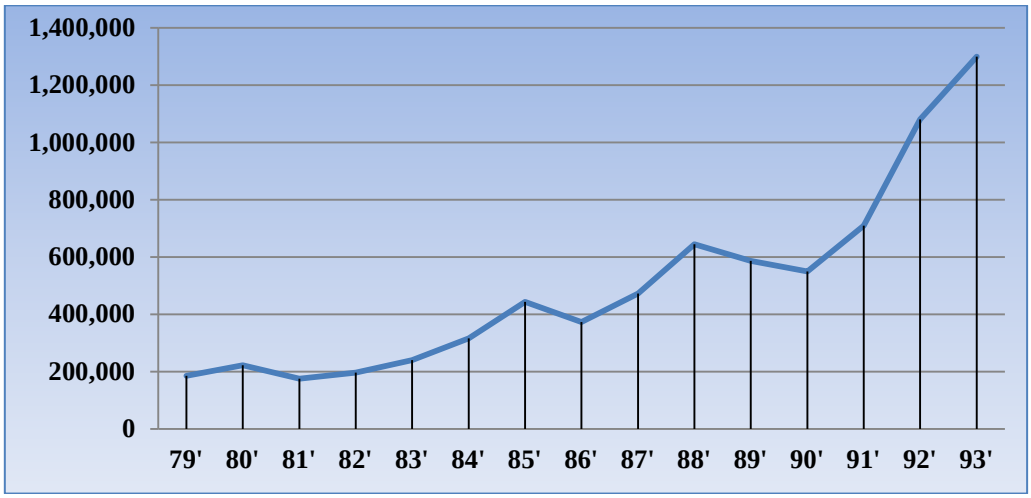
automobile industry brought advantages of size and managed competition. Second, foreign automobile firms can only partner with no more than two different Chinese partners [38] in establishing a JV firm and each firm should produce a different model [39](Chin, 2010). The downside of one-to-one partnership scheme usually is, for example, low-performing Chinese partners may have little incentive to improve their performance if they knew its foreign partner was locked into the arrangement and basically could not escape the JV without exiting the Chinese market; therefore, they had taken the path of least effort, and are heavily reliant on their foreign partners for input and management.

At the same time, if each foreign firm was partnered with only one Chinese firm, it would be too easy for the foreign partner to control the Chinese partner. One advantage of having two partners, in Li Bing's[40] opinion, is risk sharing, if the foreign firm breaks up with one Chinese partner, it always has another one to cover the business. As pointed out by Duan Changzhao,[41] in the case of VW, it has two JVs in China – FAW VW and Shanghai VW which are normally regarded as 'North VW' and 'South VW' respectively. Having two JVs not only enabled VW to share the operational risks, but also to quickly seize market share. One may ask why not three JVs then? The answer is that if the government allowed foreign firms to establish JVs with three or more Chinese partners, it might have led to an overstretching of the foreign partners' resources at a time when the government was intent on consolidating and modernising the industry to establish best practice.

[38] So far, most of the Chinese partners of the JVs are state-owned firms.
[39] Prior to 1994, foreign firms could only partner with one Chinese state firm (Chin, 2010).
[40] Interview with Li Bing, plan & product director assistant, BAIC: Beijing, November 2009.
[41] Interview with Duan Changzhao, journalist, Beijing Automobile News: Beijing, December 2009.

Figure 20 shows the Chinese automobile production during the transition period. From this, it is clear that output growth in the second half of the time period was more rapid than in the first half and was mainly due to the arrival of foreign firms. These international JVs facilitated moves towards increasing the scale of production by transferring advanced technologies and management skills, and so are conductive to optimising the industry.[42] In 1992, the country's total annual automobile production exceeded 1 million units for the first time. Thus the fourteen years after Mao's death witnessed changes on how the automobile industry was to be developed in the future with the country's economic liberals engaging themselves in developing a healthy passenger car industry through FDI and so pushing the pace of industrial development in pursuit of a more market orientated economy (Collis, 2011; Buckley *et al*, 2007).

Figure 20 – Chinese automobile production between 1979 and 1993



Source: adapted from Yang (1995) and RITA (2003)

3.3 Development period (mid 1990s – 2004)

China's rate of economic growth and development continued into the 1990s. This period was also marked by a number of phases which all made important impacts on

[42] Interview with Li Bing, plan & product director assistant, BAIC: Beijing, November 2009.

the automobile industry including: WTO entry, automobile industrial policy of 2004, and establishment of new indigenous automobile firms.

3.3.1 WTO entry

Another milestone for the Chinese economy which also had a great impact on the automobile industry during the development period was the country's accession to WTO. The WTO membership is almost a *sine qua non* to acceptance in the global trading community and it took China 16 years of negotiations before it was permitted to join in December 2001 (Donnelly *et al*, 2010). WTO membership was much more than a symbol of China's acceptance as a full player in the world economy; it signalled its advent as a force in the global economy. Accession to the WTO represented not only a dramatic change in the formal rules of the game, but also recognition by some Chinese leaders that the very nature of the game itself was changing (Yang, 2001). Although the globalisation of manufacturing in itself was nothing new, multinational firms have been relocating manufacturing facilities to the developing world for decades; what was new was the degree to which production chains had become globalised. Not joining the WTO would both have prevented China from fully participating in global production network from which the country had clearly great deal to gain and made it more difficult for Chinese firms to develop the competitive ability that would allow them to carve out high-value-added pieces of such networks (Thun, 2006; Brandt and Van Biesebroeck, 2006).

In the 1990s, China was a major recipient of FDI. From 1992 to 1997, it attracted a total of $196.8 billion in FDI, and from 1997 to 2002, it attracted more than $45 billion annually (Cassidy, 2002). So great was the impact that by 1997, the 145,000 foreign firms that had invested in China employed 11 percent of China's non-

agricultural workforce, produced 14 percent of industrial output, generated 12 percent of tax revenue, and perhaps most important, accounted for almost half of China's foreign trade volume (Yang and Su, 2000). Inflows of foreign capital continued in the 2000s and in 2002, for example, in part due to a stagnant the US economy; China received more FDI than any other country in the world (Cartledge, 2003). By 2007, the number of foreign firms in China had risen to 286,200, employing 42 million people and accounting for 31.5 percent of gross industrial output value (Morrison, 2009). With respect to the automobile industry, after China's entrance into the WTO, FDI began to grow faster than ever. Overall production increased by 38.8 percent and 36.7 percent in 2002 and 2003 respectively (Luo, 2005).

Table 12 – Differences between pre- and post- WTO membership on automobile industry

Source: Gao (2002: 148)

Looking more closely at the automobile industry, Table 12 shows the differences between pre- and post- WTO membership, and clearly, there are great differences in terms of tariffs, import quotas, and local content. Before accession to the WTO, the national government used to charge as high as 200 percent tariffs on imported

vehicles, and the number of vehicles imported was also restricted to only 30,000 units annually. But afterwards, protective tariffs were reduced to an average of 25 percent in 2006, and the number of vehicles that could be imported was unlimited. Finally, the local content requirement in automobile industry was abolished after the country's WTO accession (Brandt and Van Biesebroeck, 2006).

3.3.2 Automobile industrial policy of 2004

In order to adapt to changes in the Chinese automobile industry and to cope with the challenges emerging after China's entry to WTO, the National Development and Reform Commission (NDRC) altered the 1994 industrial policy on automobile industry in 2004. According to Luo *et al* (2009), the 2004 AIP has several new objectives above and beyond the 1994 AIP including:

- To promote the harmonious development of the automobile and associated industries;
- To drive industrial structural adjustment;
- To encourage self-reliant product development and local brand development, with a view to building up a few famous brands and globally competitive automobile groups by 2010;
- To encourage independent research and development and production on a large scale for key components and parts, and to foster the local suppliers and their international operations;
- To promote light duty vehicles and new energy-efficient vehicles

The 2004 AIP significantly differs from the 1994 AIP by offering encouragement and strategic direction rather than regulation. This indicates a significant change in the role of the Chinese government in economic matters, as the government is now committed to using market forces to influence the industry's future rather than rely on government-perspective regulations. For example, instead of previous regulations about local content rates imposed on suppliers and vehicles firms, the new policy

markedly encouraged global platforms, with an expectation that global components would then be built in China not only for the Chinese market, but also for export to Europe, Japan, and North America (Luo *et al*, 2009).

3.3.3 Establishment of new indigenous automobile firms

Another important feature of the Chinese automobile industry from the late 1990s was the emergence of indigenous automobile firms[43], which originated in kindred areas such as motor cycles and light engineering industries (Table 13). They are also known as the independents, examples of these firms are Brilliance, BYD, Chery, and Geely. Their role in the industry had been constrained by government policy which was at first content to only the state-owned and JV firms and so many firms that wanted to make the transition from other areas of engineering to automobile production were denied access. But when, as discussed in the literature review, the government began to look away from the Japanese model of development and turned increasingly to its Korean counterpart, it was decided circa 2000 to encourage the entry of private capital into the industry and so more automobile production licenses were approved in the hope of encouraging a greater spirit of entrepreneurship.

As will be highlighted in the ensuing chapter, several of these emerging concerns such as Chery and Geely grew quickly though they concentrated their initial efforts at the lower end of the market. As stated, many of the independents work in areas related to the automobile industry where their technologies, work process, and organisational structures were broadly similar and such a move seemed a natural process.

[43] Often referred as 'independent', if an automobile firm has developed its own indigenous brand and the technologies needed for R&D and manufacturing process were not introduced through a form of JV with foreign firms, we use the term – independent (F. Li, 2009).

Table 13 – Where domestic indigenous automobile firms came from

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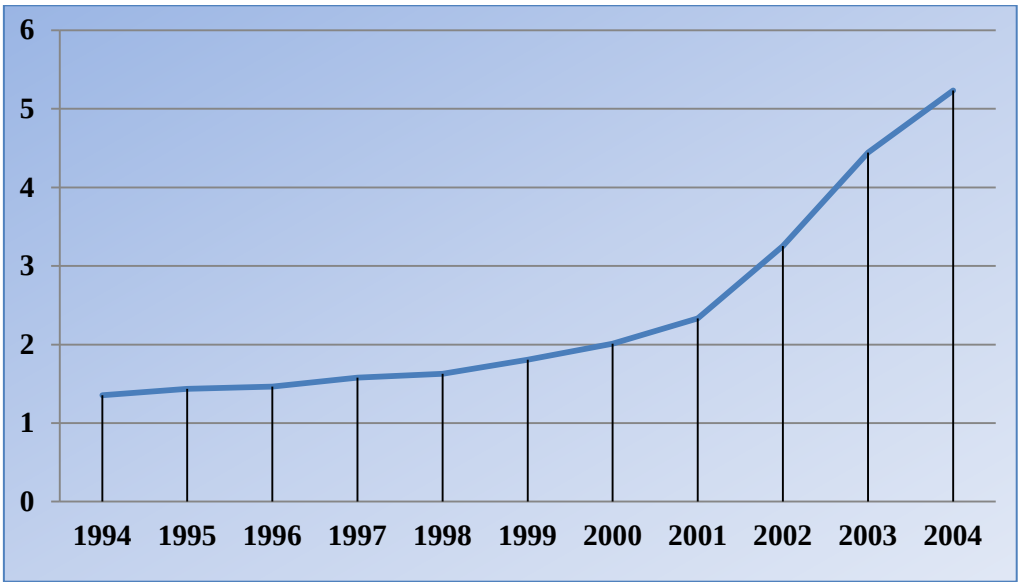
At the time of writing, there are around 20 new indigenous automobile firms in China which can be categorised as independent, but of these only eight have successfully started passenger car production including: Brilliance, BYD, Chery, Geely, GreatWall, Hafei, Jianghuai, and Lifan (F. Li, 2009). The reasons for failure include insufficient start-up capital, a lack of quality and cost control, weak design and innovation capabilities (especially in case of advanced engines and system integration), and a failure to make any impact on what is a very crowded and competitive market. All in all, the new indigenous firms brought diversification (e.g. car models) to the Chinese automobile industry as well as ever intense competition; nevertheless, it shows again the great potential and enormous attractiveness of the industry itself.

Figure 21 – Chinese automobile production between 1994 and 2004 (millions of units)



Source: adapted from RITA (2003) and OICA (2010)

Figure 21 shows the Chinese automobile production during the development period. After China's entrance into the WTO, automobile production grew rapidly. In 2002 and 2003, the Chinese automobile industry developed extremely fast. "The overall production climbed up by 38.8 percent and 36.7 percent in 2002 and 2003 respectively while the passenger car production grew up 55.2 percent and 84.99 percent and there was almost no inventory at the end of the two years" (Luo, 2005: 5). The major pulling force came from the fast expanding passenger car market and the reasons were firstly growing disposable real income of the Chinese people. According to Li Bing,[44] when income per capita exceeds $3,000, people can afford a car and this near continuous upwards trend in real income since the 1990s has served as a driving force to boost demand for passenger vehicles. In particularly this was due to the explosion of urban middle-class wealth in major cities such as Beijing, Guangzhou, and Shanghai. Moreover, after China entered WTO, more automobile firms (e.g. Brilliance, Beijing Hyundai) entered the market, and more diversified car models

[44] Interview with Li Bing, plan & product director assistant, BAIC: Beijing, November 2009.

have been introduced which also stimulated the car-buying enthusiasm of the potential consumers.

4. The current situation: 2004 – 2011

Previous sections of the chapter reviewed different development stages of the Chinese automobile industry via a historical line. From 1956 when the first Chinese automobile firm was established to 2009 when there were around 130 automobile assembly firms with a total output of more than 13 million units. It took China 36 years to achieve an output of one million units,[45] but only 17 years to move from one million to 10 million.[46] The industry did not really start to develop significantly and rapidly until the 1980s, afterwards, it enjoyed a rapid growth between 1994 and 2002, and following entry to the WTO, growth proved extraordinarily swift.

4.1 Manufacturing landscape

There are circa 45 automobile firms with around 130 assemblies operating in China and manufacturing activities are spread over 23 administrative regions[47] (Automotive News Europe, 2008). From Figure 22, we can see that: firstly though industry is highly dispersed, the majority of the automobile production are located in coastal provinces/municipalities as well as traditionally industrialised bases of northern China, whereas in western China car production is scarcely established; secondly, although automobile production exists in many parts of the country, there are differences in terms of concentration, for example: there is only one[48] automobile firm in western China in Gansu province, whereas in Guangdong province, in the south of the country,

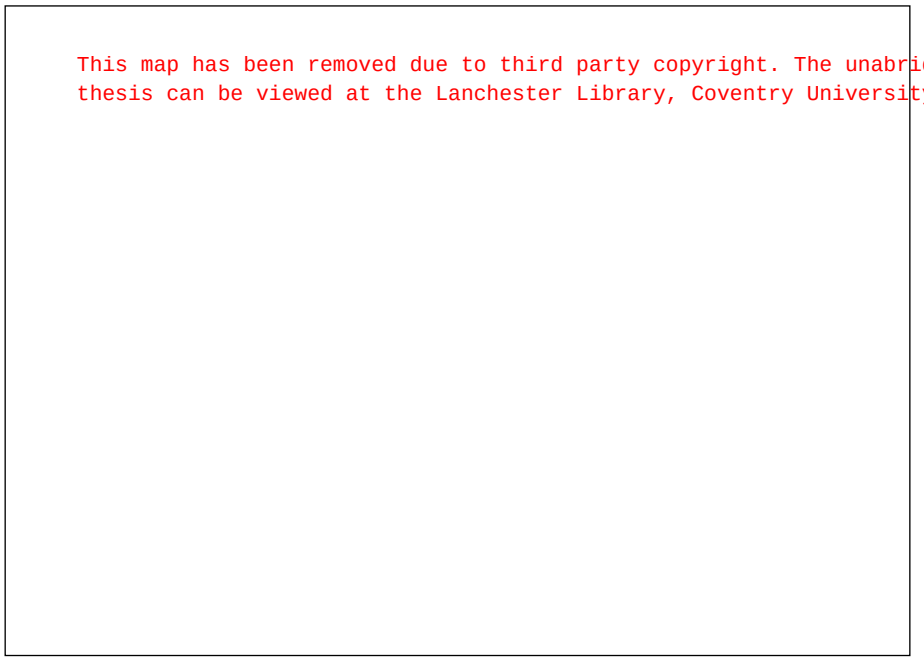
[45] From 1956 to 1992.
[46] From 1992 to 2009.
[47] There are 34 administrative regions in China including: 23 provinces, 2 special administrative regions, 5 autonomy regions, and 4 municipalities.
[48] In 2006, Geely established a production base in Lanzhou, the capital city of Gansu province (Geely, 2009a).

there are ten firms. The latter benefits from excellent transportation links, its strategic geographical location as well as a good industrial infrastructure which helped to underpin a platform for developing the automobile industry.

Chinese automobile production between 1950s and 1980s consisted of mainly trucks and heavy vehicles (Harwit, 1995). With the economic reform at the end 1970s under Deng Xiaoping and the subsequent entry of foreign automobile firms from the mid-1980s, the industry started to accelerate in parallel with overall economic trends, the increase in disposable income in the metropolitan areas and the establishment of an affluent middle class primarily in east and south China after the 1980s. Although production has grown at a considerable rate, it is dominated by three major types of firms:

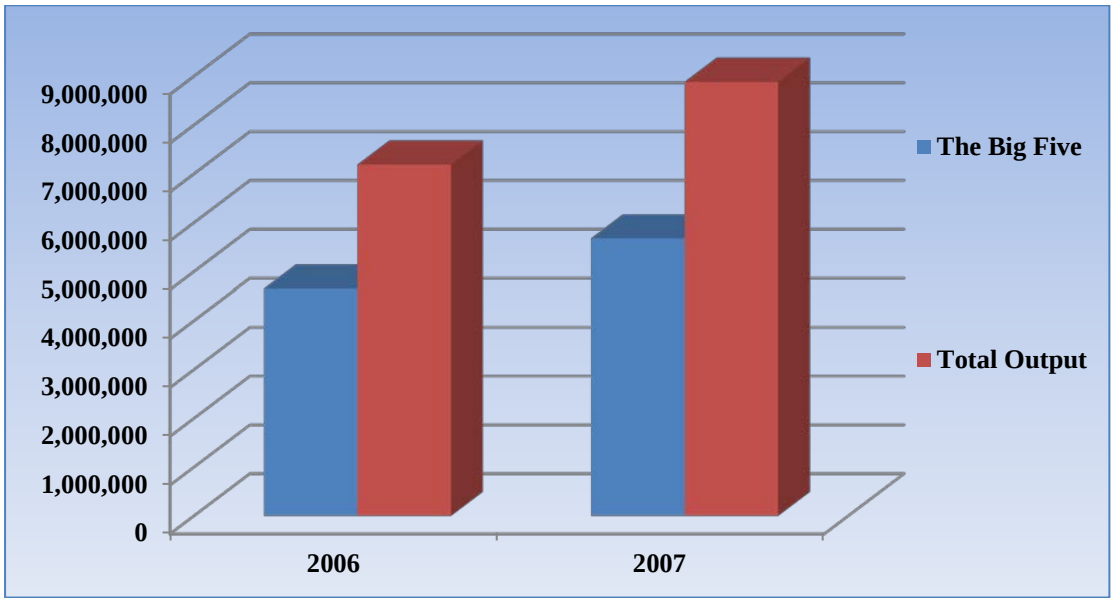
1) Traditional stated-owned automobile firms (e.g. FAW, SAIC, and SAW)
2) International JVs (e.g. FAW GM, FAW VW, Shanghai GM, and Shanghai VW)
3) Indigenous firms with self-owned brands (e.g. Chery, Geely)

Figure 22 – Overview of major automobile facilities in China



Source: Automotive News Europe (2008)

Figure 23 – Production of the 'Big Five' compares to the total output in 2006 and 2007[49]



Source: Automotive News Europe (2008) and OICA (2008)

Figure 23 shows the production of the 'Big Five'[50] as compared to total output. They accounted for 64.7 percent of total output in 2006, and slightly less, with 63.9 percent of total production in 2007. Nearly two thirds of production occurs in these five large firms and their JVs. The figure also indicates how important the international JVs are to the industry as without them, the 'Big Five' together only generated 26.8 percent and 27.2 percent of the production in 2006 and 2007 respectively (OICA, 2008).

4.2 Industrial geographical concentration

The automobile industry typically emphasises the importance of economies of scale. Thus it is necessary for firms to concentrate production in largish units. The previous section discussed the lack of industrial concentration of the Chinese automobile industry between the 1980s and the 1990s as a result of government decentralisation. The industry was under protection for a long time and so high tariff policies

[49] Includes JV production.
[50] The 'Big Five' refers to five domestic Chinese automobile firms including: Chang'an, Chery, FAW, SAIC, and SAW. All of these firms are state-owned; the government cultivate them so that they can represent China and compete globally.

efficiently prevented international competition. In line with the central government thinking, provincial governments around the country have long been keen on making the automobile industry one of the most important industries in terms of regional economies, and, therefore, many automobile firms have been established, but few, as has been said repeatedly, have come anywhere near the internationally recognised economies of scale in terms of output.

4.2.1 Major automobile production locations

So, has the situation improved? Figure 23 presented above suggests that there may now be some evidence of industrial concentration in the recent development of the industry. Figure 24 below gives a clear view of automobile production density by listing the major automobile production cities in China. These 12 cities fit into six clusters as discussed later in Figure 25.

Figure 24 – Automobile production at major locations in China, 2007

Source: adapted from Liu and Yeung (2008)

In 2007, the 12 cities accounted for 71.9 percent of the total automobile output and 80.5 percent of the passenger car production in China (Liu and Yeung, 2008). The Chinese government has made every effort to foster large domestic automobile firms and groups, not only by giving priority to selected firms (e.g. FAW, SAW, and SAIC) by approving their new assembly JVs with foreign firms, but by also encouraging these large firms to take over smaller domestic firms in a process of industrial consolidation. These activities have accelerated production concentration in China's automobile industry within a short period of time.

The expectation of the potential competition with foreign firms forced domestic firms to embark on industrial consolidation. On the one hand, some big automobile firms annexed small ones (e.g. FAW's acquisition of TAIC), others even annexed stock suppliers, transportation corporations, and distribution systems (e.g. SAW); on the other hand, small firms had little choice but to merger with others or face bankruptcy (e.g. Bird) (Luo, 2005). An example of this was Tianjin's merger with the much stronger FAW in 2010 (Tianjin FAW, 2010). Although some progress has been made, progress has been painfully slow and much further consolidation, as will be discussed below, is needed if full economies of scale are to be achieved.

4.2.2 Automobile clusters

As discussed in the literature review where emphasis was laid on the work of Porter, Markusen, and Kuchiki, China's automobile firms are not equally located throughout the country; instead, they are grouped in several distinct clusters which are around the key regional industrial centres including: Changchun, Chongqing, Beijing, Guangzhou, Shanghai, and Wuhan (Figure 25). Such consolidated locations bring advantages in terms of logistics of production facilities, component supply, of

transportation and other commercial infrastructures, as well as of being areas where consumer demand is strong.

Figure 25 – Industrial clusters in the Chinese automobile industry

Source: adapted from Automotive News Europe (2008)

Although the Chinese automobile industry is still relatively fragmented in terms of numbers of firms, there are signs of emerging clusters. As discussed earlier, the top six automobile clusters (Figure 25) accounted for about 70 percent of total automobile output in China (Liu and Dicken, 2006; Liu and Yeung, 2008). Geographically, automobile-related FDI inflows into China have been concentrated in the twelve cities (Figure 24): Haerbin, Changchun, Shenyang, Beijing, Tianjin, Nanjing, Shanghai, Wuhu, Wuhan, Chongqing, Liuzhou, and Guangzhou. Centred on these cities, six FDI-based regional clusters of automobile production have emerged (Figure 25 and Table 14) (Liu and Dicken, 2006).

Table 14 – Different types of regional automobile development in China

Region	Description	Development process
Beijing	Due to being located in the capital, little separation of national and municipal interests. Beijing's automobile firms have long histories	The city's bureaucracy is divided over whether the city should promote itself as either an industrial or as a cultural centre. Ownership of the automobile firms is spread over several ministries rather than concentrated in one
Shanghai	Key firms are owned by the municipal government which has a long experience in promoting the automotive industry	National and local reform polices created incentives to promote local development. Highly developed municipal planning organisations control the automobile industry, which tends to be unified in one group.
Guangzhou	Due to geography, firms are often more autonomous with strong trade ties with Hong Kong. Automobile firms have long histories	The province was granted early autonomy from the centre and investment controls are very lax. Ownership of the automobile firms is spread over several provincial ministries
Changchun/ Hubei/ Chongqing	Largest, oldest firm in China, controlled by national government, not municipal	Non-financial interests of firms take precedence. National interest in perspective. Owned by national government.

Source: adapted from Thun (2006)

Shanghai has become one of the main automobile production centres in China with SAIC which was established in the first round of state-owned automobile plant construction acting as a lead firm. In addition, both Volkswagen and GM favoured Shanghai because of the developed infrastructure and the convenient geographical location which allows for efficient deep-sea logistics to import to, and export from China. This region has become more competitive as newly established indigenous firms such as Geely and Chery, which will be discussed in the case study, also located themselves within the region.

Beijing, as the capital, was chosen to develop an automobile industry to boost the regional economy. The BAIC currently has cooperation with Benz, Chrysler, and

Hyundai. Beijing is joined by its neighbour city – Tianjin municipality, which posesses a rich industrial history with TAIC (BBC, 2009b).[51]

Guangzhou, located nearly 2000 kilometres to the south of Beijing, has thrived as a city of commerce and a window to the outside world[52] (Thun, 2006). Guangzhou's automobile industry started to develop after the economic reforms, and the special economic zone created after the Open Door Policy boosted the development (Guo, 2007; Liu and Yeung, 2008). The arrival of Honda, Nissan, Peugeot,[53] and Toyota put Guangzhou at the forefront of China's automobile industry (Kuchiki, 2005; 2008a; b; Liu and Yeung, 2008). The automobile industry in this region has been accelerated by GAC[54] and its foreign partners as well as the region's tight linkages with Hong Kong.

The city of Changchun (Jilin province) was chosen for FAW because it is close to the Soviet Union, from where assistance was drawn, and traditionally northern China has a long established historical industrial base (Harwit, 1995). Indeed, FAW's relationship with Toyota and VW over JV production, together with the recently established independent firm – Brilliance (Liaoning province), provides the foundation for automobile production in this region.

The city of Wuhan (Hubei province) is listed as one of the centres for automobile production due to the existence of SAW. Its rise can be attributed primarily to the relocation of SAW's headquarters from Shiyan to Wuhan in 2003 (Liu and Yeung, 2008; Luo *et al*, 2009). SAW's linkage with Honda and PSA has boosted the

[51] TAIC was one of the 'Little Three' and was acquired by FAW in 2002 (Tianjin FAW, 2010).
[52] An often-quoted Chinese proverb, "the mountains are high and the emperor far away" to describe a place where enjoys a great deal of independence from central power due to its distance (Thun, 2006).
[53] Peugeot's venture in Guangzhou started in 1985, but closed in 1997 (Zhao and Gao, 2009).
[54] Guangzhou Automobile Group Co., Ltd.

automobile development within the region through increasing output (Liu and Yeung, 2008).

Lastly, the city of Chongqing has enjoyed a great deal of automobile development. Notable firms are, for example, the large state-owned Chang'an Automotive Corporation, and its foreign partners Ford, Mazda, and Suzuki, and indigenous firms such as Chongqi Lifan Automobile Co, Ltd. Chang'an was the second largest automobile firm in China in 2008 with a production of 531,000 units[55] (OICA, 2009). In 2009, it produced 1.4 million units[56] which was ranked 1st among all Chinese automobile firms (OICA, 2010). The city of Chongqing became the fourth city to achieve the status of municipality in 1997 after Beijing, Shanghai, and Tianjin. It now plays a key role in economic and industrial development of western China.

Finally, in referring back to the conceptual framework (Figure 10) designed in chapter 3; here we are going to try to answer the questions related to clusters in the Chinese automobile industry: Why do automobile clusters emerge? Where are they located? How do these clusters differ with each other? In terms of production concentration and level of development, the majority of total automobile output comes from 12 cities that can be categorised into six clusters, three of which are located along the coast from north to south. In addition, each cluster is built around one or possibly more anchor firms as mentioned in Kuchiki's flowchart for example: FAW in Changchun, BAIC in Beijing, SAIC in Shanghai, SAW in Wuhan, Chang'an Chongqing, and GAC in Guangzhou. These large automobile firms thus acts as a hub, and are surrounded by smaller assemblers and component and parts suppliers as outlined in Markusen's concept of industrial districts (Markusen, 1996b). Moreover,

[55] Excludes JV production.
[56] Excludes JV production.

the establishment of these anchor firms were not all occasioned by market forces, for example, both FAW and SAW were formed with political concerns in mind as the former was built in the northern part of the country aimed at receiving assistance from USSR in the 1950s, while latter was founded in a remote area for military considerations in the 1960s due to the Cold War.

The difference between clusters first of all lies in structure of anchor firms, all of which are organised in a different manner as shown in Table 14, some such as Chang'an, FAW, and SAW are supported by the central government while others like BAIC, GAC, and SAIC are under the wing of local governments. Secondly, the degree of complexity within clusters varies. For example, in Guangzhou region, all foreign automobile firms located are Japanese (e.g. Honda, Nissan, and Toyota) whereas in Shanghai, the situation is quite different, not only SAIC has entered into JV production with VW and GM, both which come from different backgrounds. Moreover, the region also includes private Chinese automobile firm (e.g. Geely) and newly established indigenous firm (e.g. Chery). It is difficult to tell which cluster is better than another regarding competitiveness and efficiency. However, with appropriate government support and guidance whether national or local as well as the development of a viable network, different types of clusters can and do flourish in the Chinese context. Finally, regardless of the types of clusters that are emerging in China it would be premature at this stage to make direct comparisons between them and the classical structures that exist in California's Silicon Valley and Finland's Oulu City.

Recalling the industrial cluster theories discussed in the literature review with the works of Markusen (1996a; b), Porter (1998a; b; c; 2000), and Kuchiki (2005; 2008a; b), one important factor which might help to ensure success is the role of government

as discussed in Porter's diamond model and Kuchiki's flowchart (Porter, 1998c; Kuchiki, 2008a; b). A developmental state in which governments (central and local) compensate for underdeveloped capital markets is by playing the role of investment banker and economic facilitator. The institutions of the provincial states are unified and cohesive in their mission to cultivate and develop firms. By adapting an activist role with respect to investment, the local government eases the collective action problems that hinder early development and firms are then confident that investment and commitment to the success of an assembly plant, for example, will be complemented with a broad-based development effort. This fits well with the Chinese automobile industry as the provincial governments have actively promotes the establishment of JVs between domestic and foreign firms within the clusters by giving foreign investors preferential tax treatment, efficient one-stop services, and enticements to promote growth and development in their areas (Liu and Dicken, 2006; Kuchiki, 2005; 2008a; b; Chin, 2010).

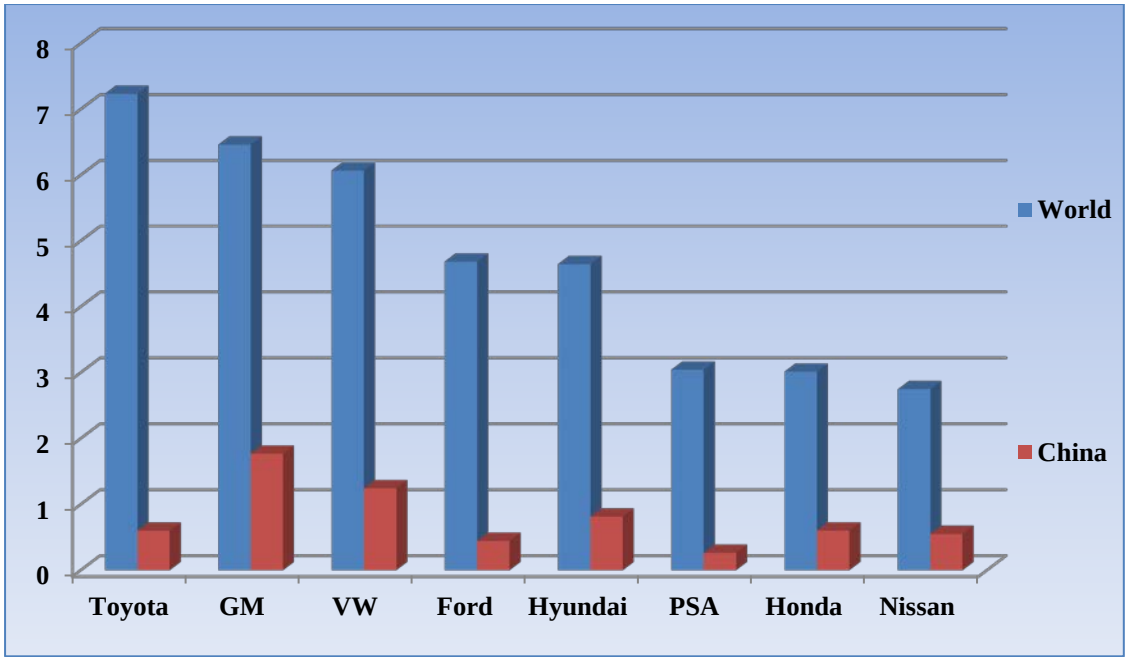
4.3 FDI

4.3.1 FDI and global automobile firms in China

As discussed in chapter 2, FDI plays an important role in international economic development, and it continues to do so in the recent development of the Chinese automobile industry with increasing investment and expanding production capacity (Sit and Liu, 2000; Sturgeon *et al*, 2009). The specific advantages hosted by foreign automobile firms (e.g. technology, capital, brand reputation, distribution network) discussed in literature review and their internalisation through JVs with Chinese partners has generated confidence over operations in China (Buckley, 2006; Buckley *et al*, 2004; 2005). The close relationship between FDI and the Chinese automobile industry can be best illustrated in Figure 26 and Table 15 below.

Figure 26 provides a clear picture of the annual production of the world's 8 biggest automobile firms and the proportion of their production in China in 2009. Each of these 8 automobile firms has established JVs with one or two Chinese partners. Toyota may be the leader for producing the most automobiles in the world; however, it was GM which produced the most automobiles in China in 2009 with almost 1.8 million units (OICA, 2010).

Figure 26 – World's top 8 automobile firms and their production in China and around the world, 2009 (millions of units)



Source: adapted from OCIA (2010)

Table 15 – Global automobile firms' production in China, 2007 – 2009 (%)

Year	Toyota	GM	VW	Ford	Hyundai	PSA	Honda	Nissan
2007	4.7	4.8	13.4	4.5	8.5	8.6	11.9	6.2
2008	6.0	6.7	13.4	5.2	10.5	5.2	12.1	11.2
2009	8.3	27.3	20.5	9.5	17.5	8.6	20.0	19.9

Source: adapted from OICA (2010)

Toyota and GM produced 8.3 percent and 27.3 percent (Table 15) of their total automobiles in China respectively in 2009 (OICA, 2010). Indeed, GM's figure is the

highest of the 8 firms listed in Table 15. Hard on its heels, came VW with a figure of 20.5 percent. Others in this vein are Honda, Hyundai, and Nissan. The percentage of their production in China as compared to their global production in 2009 was 17.5, 20.0, and 19.9 respectively (OICA, 2010). Both Ford and PSA have also done well in terms of being prominent in the Chinese arena with nearly 10 percent of their total global production based in China (OICA, 2010). Furthermore, Table 15 demonstrates the importance of China as an automobile market and the booming market has brought relief to foreign automobile firms, which have seen weak demand at home (China Daily, 2007). Some firms (e.g. Ford, Toyota) have doubled their production in China while others (e.g. Nissan) have even tripled. The sudden leap in percentage growth between 2008 and 2009 was due to the automobile restructuring and revitalisation plan 2009 (discussed later) announced by the central government to tackle the global financial crisis that occurred in late 2008 and maintain the stability of automobile consumption.

Table 16 – The number of new models produced in China, 2001 – 2008

In tandem with increasing investment by foreign firms and rapid growth in automobile production, the industry has also been experiencing rapid product diversification as shown in Tables 16 and 17. In 2001, Chinese indigenous firms had a total of 19 different models in the industry including three new models produced in

that year while the number of total new models produced by foreign firms was just seven (Kim *et al*, 2008).

Table 17 – The total number of models produced in China, 2001 – 2008

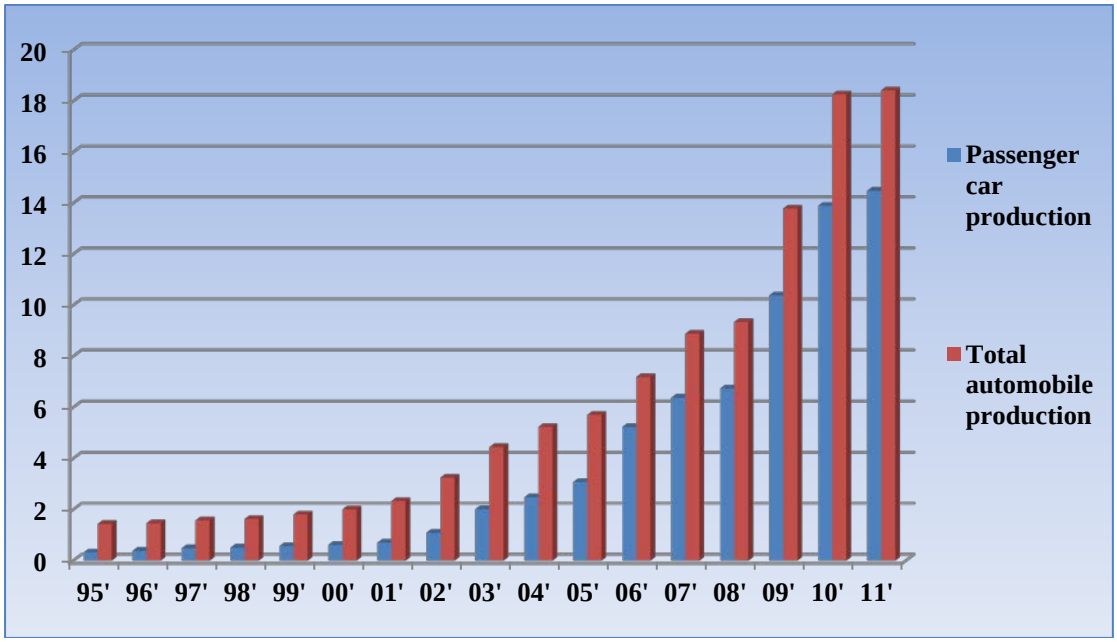
Severn years later, in 2008, the total number of new models produced by all Chinese firms was fifty three, seventeen times more than the figure of 2001. Regarding foreign firms, compared with only seven new models produced in 2001, twenty nine new models were produced in 2008 (Kim *et al*, 2008). This trend toward product diversification reflects the growing maturity and sophistication of the Chinese market, which is increasingly fitting in with global trends in product market fragmentation. As the Chinese economy continues to develop and becomes more integrated with global economy, the development of the automobile industry looks promising and China over time has certainly become a strategic market place for all global automobile firms.

4.3.2 FDI and passenger car industry

Most of the JVs in China are in the passenger car side of the industry and it is a favoured government instrument to achieve technology transfer and rapid growth of the industry. The reasons why JVs are mostly concentrated in the passenger car industry are not difficult to understand. Firstly, it is because of the strategic significance of the sector as the passenger car takes the majority of the total automobile output in China and the growth has been promising. Secondly, it is due to

the fact that knowledge of truck production in China is relatively advanced. Indeed, Figures 27 and 28 show the passenger car production and compare it with the total production. According to the figures, Chinese passenger car production started to grow rapidly after 2002 when China entered the WTO and exceeded half of the total production for the first time in 2005 with 3 million units (OICA, 2008). Since then, it grew on an even bigger scale and exceeded 14 million units in 2011 (Figure 27) which accounted for 78.6 percent of the total production (OICA, 2010).

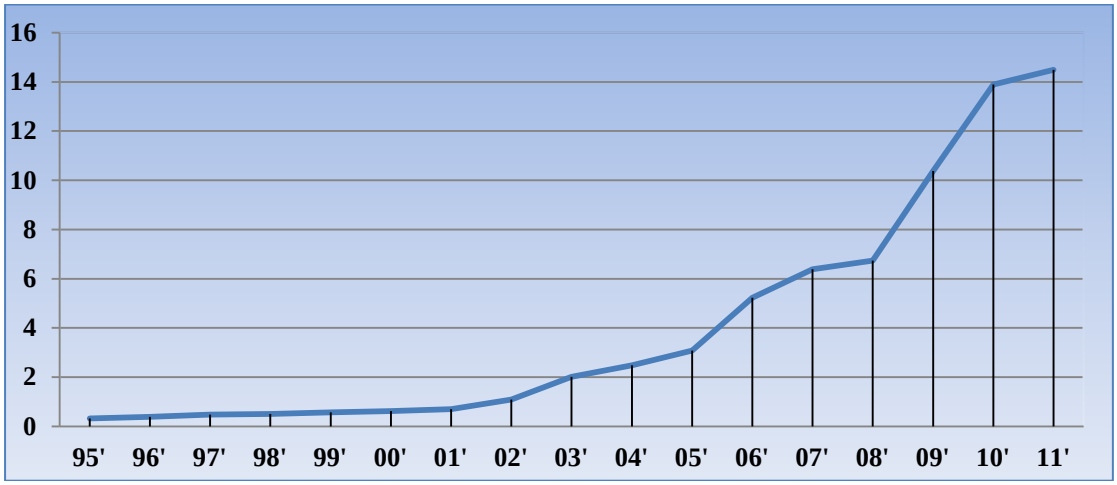
Figure 27 – Chinese total automobile production and its passenger car production between 1995 and 2011 (millions of units)



Source: adapted from OICA (2008; 2010; 2012)

As already discussed in this chapter, the logic behind the rapid growth in the Chinese passenger car industry after 2002 (Figure 28) is not difficult to understand. Growth can be attributed to rising real disposable incomes and demand, to the entry of foreign firms like BMW, Hyundai, Mazda, Nissan, and Toyota which have all formed JVs with their Chinese partners from 2002 to 2006, and also to rise of domestic firms including: Brilliance, BYD, Chery, and Geely.

Figure 28 – Passenger car production in China, 1995 – 2011 (millions of units)



Source: RITA (2003) and OICA (2008; 2010; 2012)

Table 18 – Major joint ventures in the Chinese passenger car industry

JV Firms	Date established
Shanghai VW	1985
Shanghai GM	1997
FAW VW	1991
FAW Toyota	2003
Beijing Hyundai	2002
Beijing Benz-Chrysler	1983
Guangzhou Honda	1998
Guangzhou Toyota	2004
Dongfeng PSA	2002
Dongfeng Nissan	2003
Donfeng Honda	2003
Dongfeng Yueda Kia	2002
Chang'an Suzuki	1993
Chang'an Ford-Mazda	2001(2006)[57]
BMW Brilliance	2003

Source: designed by the author from various sources

A complex JV partnership structure has been developed as shown in Table 18; however, it is not without problems. While the structure helps the transfer of manufacturing know-how and experience to Chinese firms, drives the initial development of local state-owned firms and fosters the growth of local suppliers, the

[57] Mazda entered China in 2006 by using a joint plant with Ford who established a JV with SAW in 2001 (Automotive News Europe, 2008).

complexity of the cross-holding partnerships exhibits considerable difficulties in managing operations. One problem is that foreign firms have several JV partners, and also have started JVs with foreign firms who are direct competitors. For example, Honda has two JVs, one with GAC, and the other in Wuhan with SAW. Both JVs are in competition for new products, but Honda has a limited product range for the Chinese market, and thus there is potentially unhealthy competition between the two Chinese operations. Also, firms like FAW and SAW have independent operations that are in direct competition with their own JV operations.

4.3.3 FDI and technological cooperation

In addition to manufacturing capabilities, research and design capabilities are of crucial importance. Generally, there are four different strategies pursued by the Chinese automobile firms when seeking to improve their technology capabilities from foreign firms. Firstly, 'learning by doing' is a strategy commonly found in newly established indigenous firms such as Chery and Geely, which have started from reverse engineered components and are gradually expanding their R&D activities; however, these types of firms sometimes find themselves involved in intellectual property issues with foreign firms.[58] Further detail of this issue will be viewed later in chapter 6. Secondly, Chinese firms have a dual strategy of having both large JVs as well as their own independent operations. For example, FAW and Chang'an, each of them produces foreign-designed cars in JVs (e.g. FAW VW's Audi A4 and A6, Chang'an Ford's Focus); however, they also have their self-owned models (e.g. FAW's Red Flag HQ3, Chang'an CX30) developed with the help of their foreign partners through technological support, which can result in what might be described

[58] In May 2003, Chery released the QQ mini-car which bears a remarkable resemblance to GM Chevrolet Spark (Luo *et al*, 2009: 47).

as an uncessary degree of competition or even a degree of cannibalisation in the market place (Chin, 2010).

Thirdly, technological knowledge can also be transferred through collaborative R&D centres such as the Pan-Asia Technical Automotive Centre (PATAC) which was established by GM and Shanghai municipal authorities in 1997 (PATAC, 2006). Its main purpose was to assist in developing indigenous automobile design and engineering capacity and to help domestic firms to modernise their capacity. Equity was split equally between the partners. In principal, PATAC was free to provide engineering and design services to other automobile firms in China and elsewhere; however, it soon became tied mainly to providing engineering support to SAIC, including its major JVs with VW and GM, and so most of PATACT's business has been with Shanghai GM rather than with other firms thereby limiting its potential impact as envisaged in the wider sense when it was founded (PATAC, 2006; Chin, 2010).

Lastly, Chinese firms have resorted to buying in capabilities. For example, SAIC bought 51 percent stake of Ssangyong Motor in late 2004 (Chin, 2010).[59] Moreover, in July 2005, Nanjing Automobile Corporation (NAC) purchased MG Rover for £53 million (NAC, 2010).[60] In 2009, Beijing Automotive Industry Holding Co., Ltd (BAIC) acquired some of the assets of GM's Saab and the deal was to buy production equipment and intellectual property related to two Saab models – Saab 9-3 and 9-5 including the power train technology and tooling (Li and Espinoza, 2009). Geely's

[59] In January 2009, Ssangyong recorded a huge loss and the firm was put into receivership (Chin, 2010).
[60] At the end of 2007, NAC entered Chinese government-supported talks with SAIC about a possible merger. The takeover was completed on December 2007, transferring all NAC assets to SAIC ownership, including the MG name and the Longbridge factory in the British West Midlands. The MG 7 (NAC) and Roewe 750 (SAIC) share mechanical features (NAC, 2010).

acquisition of Volvo in 2010 is just another example of how the Chinese firms try to achieve technological capacity (Business Week, 2010).

Although the Chinese automobile industry has gained technological capabilities through various ways, there are still concerns. Firstly, lack of independent and efficient R&D by some of the big state-owned firms as well as the standard, quality, and competitiveness of the product developed by these R&D centres remain in doubt whether they would meet the standards that western designed for the Chinese market (Zhang and Tian, 2006; Huang, 2009). In addition, although the government has encouraged the establishment of R&D centres, most have complied and some are in the process of doing so, but the function of most of these R&D centres is just to act as showcases of compliance with government policy. In other words, the development of independent intellectual property has been shown to be weak in the market place where western models predominate (Luo *et al*, 2009; Huang, 2009).

Secondly, the national government hoped the domestic firms would acquire core technology from their JV partners at the price of opening up the market. Was it successful? To a certain extent, it has not been.[61] Although JVs were formed with 50/50 share ownership patterns, foreign automobile firms have controlled the core technology tightly. Therefore, they usually exercise dominant power over procurement, finance, and management.[62] For example, Beijing Hyundai's Korea board has dominant control in key areas such as R&D, purchaseing, and sales (Huang, 2009). Indigenous (Chinese) staff working in international JVs were once called 'Mr. Yes' although there has been some improvement over the past three decades with

[61] Interview with Li Bing, plan & product director assistant, BAIC: Beijing, November 2009.
[62] Interview with Zhang Rong, vice general secretary, Beijing Association of Automobile Manufacturers (BAAM): Beijing, December 2009.

more and more Chinese staff participating in the senior management.[63] Even in PATAC, Chinese personal were denied entry to key parts of the facility in which R&D was carried out. In the end, foreign firms take great care to protect their advanced cutting edge technology and are content to share more basic and easily acquired technologies with their Chinese partners.[64]

4.3.4 FDI and supply value chain

Purchased components and materials account for around 50 percent of the total value chain, and 66 to 75 percent of the automobile content is bought by the firms from their suppliers (Holweg and Pil, 2004). Moreover, the increasing complexity of the automobile has resulted in specialised suppliers that design and provide entire automobile systems such as fuel injection systems, break systems, and other modules. Thus, analysis of this sector is critical, as discussing the automobile firms alone is not sufficient to evaluate the capabilities of the Chinese automobile industry. Many of the major international automobile components firms have established manufacturing operation in China, both to supply domestic firms as well as to benefit from low labour costs for exports (Sturgeon *et al*, 2009). In 2005, more than 70 percent of the global top 100 suppliers were operating in China (KPMG, 2009). Table 19 lists the leading automobile component firms in China.

As a consequence of fragmentation within the components sector of the industry, foreign firms account for seven of the ten biggest component firms operating in China. The three Chinese firms on the list are the component arms of the country's three leading automobile firms – FAW, SAIC, and SAW. The top 10 component firms accounted for only around 20 percent of the total sales revenue (KPMG, 2009). Many

[63]Interview with Zuo Shiquan, Automobile Research Institute, Tsinghua University: Beijing, December 2009.
[64] Interview with Li Bing, plan & product director assistant, BAIC: Beijing, November 2009.

of the foreign component suppliers are there to serve the foreign assembly firms and were invited by them to establish themselves in China by what has already been referred to as the 'follow-on' policy.

Table 19 – Leading automobile component firms in China

Name	Number of plants
Chinese	
Shanghai Automotive Parts & Components Co., Ltd	**40**
Fawer Automotive Parts Co., Ltd	**35**
Dongfeng Parts & Components Co., Ltd	**23**
Foreign	
Visteon Corporation	**29**
Denso Corporation	**20**
Johnson Controls Inc	**14**
Delphi Automotive LLP	**13**
Robert Bosch GmbH	**9**
Yazaki Corporation	**6**
Hyundai Mobis	**6**

Source: adapted from KPMG (2009)

Automobile component firms in China can be categorised into four groups (Luo *et al*, 2009). First, there are leading domestic independent part and component firms including Wanxiang Group and Torch Automobile Group. These large firms insist on self-reliant strategies for technologies, management, possess economies of scale, and are relatively competitive internationally. Both firms have established plants in the US. The second group are suppliers affiliated with domestic big state-owned firms. For example: Fawer Automotive Parts Co., Ltd and Dongfeng Parts and Components Co., Ltd. These firms were established by separating and integrating the previous parts divisions of the big state-owned firms, similar to the evolution of the Ford and GM parts divisions, which became the independent suppliers Visteon and Delphi in the late 1990s. The key for these firms to survive is their continued affiliating to large national automobile firms.

The third group are small part firms which have neither economies of scales nor R&D capabilities, and have largely focused on supplying the aftermarket. Finally, the fourth group are JVs of foreign automobile component firms or their wholly-controlled subsidiaries (e.g. Continental). These firms enjoy advanced production technology and R&D capabilities, serve the domestic automobile firms in China, and also export a significant proportion of their production. Table 20 selects some of the major foreign component firms that are currently operating in China.

Table 20 – Selected foreign automobile component firms in China

Name	Date of entry
American	
Cummins Inc	**1979**
Visteon Corporation	**1993**
Delphi Automotive LLP	**1993**
Honeywell International Inc	**1996**
ITT Corporation	**1996**
Johnson Controls Inc	**1982**
TRW Automotive Holdings Corporation	**1994**
Japanese	
Calsonic Kansei Corporation	**2002**
Denso Corporation	**1994**
Koito Manufacturing Co., Ltd	**1989**
Yazaki Corporation	**1988**
European	
Robert Bosch GmbH	**1999**
AB SKF	**1986**
Zahnradfabrik Friedrichshafen AG	**1988**
GKN Driveline	**1988**
BASF	**1982**
Korean	
Hyundai Mobis	**2002**
Others	
Tong Yang Industry Co., Ltd	**1994**
TYC Brother Industrial Co., Ltd	**1995**

Source: designed by the Author from various sources

Most of the above named foreign component firms came to China during the 1980s and 1990s, and their investment continue to grow until the time of writing. In January 2009, Germany's Robert Bosch Group predicted that more of its purchasing volume

would switch from Europe to Asia, particularly in China, with its total share of parts coming from the region rising to 25 percent by 2015 (Automotive News China, 2008). In addition, GKN Driveline of the UK built a new production plant in 2009 with an annual capacity of more than one million drive shafts (KPMG, 2009).

Meanwhile, Chinese firms themselves are looking to extend their reach internationally, particularly through acquisitions. In recent years, Wangxiang Group, for instance, has acquired more than 30 firms in Australia, Europe, and North America (Zeng and Williamson, 2007). In April 2009, US component firm Delphi confirmed the sale of its brake and suspension divisions to Beijing West Industries for $100 million (Li, 2007). Geely also acquired Australian transmission firm Drivetrain Systems International (DSI), a supplier to Chrysler, Ford, and Ssangyong (Geely Annual Report, 2009). For Chinese firms, the biggest challenges remain how to increase product standards to extend their reach into new markets both at home and overseas. While it is likely that some Chinese firms will look to take advantage of the problems in the global automobile industry by buying up firms overseas, a lot will depend on how willing the government is to oversee a consolidation of what is still a highly fragmented sector, filled with small and very inefficient firms (National Finance News, 2008; Zhao and Lv, 2009).

The distribution of components firms is very similar to the distribution of automobile manufacturing firms as supply firms are very close to the automobile makers in order to reduce the cost and time of transportation. Regional protectionism is another reason pressuring supply firms to locate near to manufacturing firms. Historically, the state-owned automobile firms purchased components regionally to serve the economic development interests of the local government, and to a certain extent this is still the

case today even though transportation costs have been reduced with the improving infrastructure. For example, provinces and municipalities such as Guangdong, Hubei, Jilin, Liaoning, Shanxi, and Shanghai are the key areas of production.

In terms of competition, domestic components firms struggle by international standards (Chin, 2010). This is due to a lack of modern manufacturing methods, such as total quality management and lean production whose distribution across the sector is sparse as a mixture of early mass and craft production was and still widely used in China. Such less sophisticated production management capabilities also resulted in high inventory and the low stock turnover ratios as compared to western standards. With China's commitment to the WTO, tariffs on automobile components have reduced to an average of 10 percent in 2006 which makes imported parts even more attractive (Luo *et al*, 2009). Moreover, Chinese automobile component firms still lag behind in terms of technology and R&D capability and only have a major advantage on labour-intensive parts. Thus, the domestic components firms face an increasing challenge if they are to compete in more advanced economies.

To sum up, section 4.2 analysed the role of FDI in more recent development of the Chinese automobile industry from three main aspects: 1) performance of major foreign firms in China, particularly their contribution in passenger car industry; 2) technological cooperation with domestic firms and; 3) establishment of supply value chain. Together with previous discussion on closed, transition, and development periods as well as fieldwork interviews, we are trying to summaries the role of FDI on the Chinese automobile industry as we did earlier on with the industrial clusters in section 4.2 by referring back to the conceptual framework (Figure 9) designed in chapter 3.

FDI in the Chinese automobile industry generally takes the form of an international JV; therefore, it is essential to analyse the impact of international JVs to the Chinese automobile industry. Advanced technologies and management skills are probably the two most obvious and direct benefits which Chinese domestic firms could get through JVs, this was also agreed by almost all of the participants in the interviews. According to Li Bing,[65] the rapid increase of production capacity over the years has clearly indicated the importance of international JVs to the industry. Moreover, Professor Zong Gang[66] indicates that the entry of foreign automobile firms via a JV also had a profound impact on the development of entire machinery manufacturing industry in China, as many other automobile related industries (e.g. components, steel) have been pushed forward by the industry's general momentum.

In addition, apart from technology and management, another important aspect, not only to the Chinese automobile industry but beyond, is the change in corporate structure and of behaviour, as pointed out by Zhang Zhixiong.[67] Before the economic reform, state-owned Chinese firms, not only in the automobile industry, adopted Soviet management style, but with the establishment of international JVs as well as privatisation under the reform era, a more modern type of 'corporate company system' has enjoyed increasing popular support. The ability to adjust to market economy demands a modern company structure and culture. Nowadays, even with state-owned firms, very few are 100 percent owned by the government and most have adopted the company system with implementation of multiple investments.

[65] Interview with Li Bing, plan & product director assistant, BAIC: Beijing, November 2009.
[66] Interview with Zong Gang, vice dean, Institute of Recycling Economy, Beijing University of Technology: Beijing, December 2009.
[67] Interview with Zhang Zhixiong, deputy director, BAEMRI: Beijing, December 2009.

Turning to FDI theories discussed in chapter 2, from the early Hymer's specific advantage to Buckley and Casson's internalisation approach to Dunning's eclectic paradigm, the theories have focused on factors which determine MNEs engage in international business, the factors which have been categorised as ownership, internalisation, and location factors. As for the Chinese automobile industry, the ownership advantages held by foreign automobile firms are clear. Advanced technologies and management know-how generated from decades or even centuries of motorisation lay a solid foundation upon which they can draw. However, with regards to the form of entry into the Chinese automobile industry, foreign firms have virtually no option other than to accept the joint venture structure. This is due to government industrial policies which are designed to draw on international transfers to build a modern and self-reliant national automobile industry in China, but not one that will be owned and dominated by foreign multinationals (Thun, 2004; 2006; Luo *et al*, 2009; Chin, 2010).

We may have every reason to question the outcome of joint venture approach as because it is not always the best and welcome operating structure in overseas operations, and because sometimes firms would like to do it alone. However, in the case of the Chinese automobile industry, the past three decades of JV production and development has strongly proved that it is not the worst choice either as multinationals have found that their operations are prospering. Finally, it must be remembered that with regards to location, foreign automobile firms entering China did not look essentially for cost reductions alone; instead, they aim for the potential market of 1.3 billion people and therefore, major production facilities have been located in areas where people enjoy a relatively high income per capita and where

there is a good industrial and commercial infrastructure with an adequate supply of skilled labour.

4.4 The role of government

4.4.1 Continuous industrial concentration

The Chinese central government has expressed a wish that sometimes between 2020 and 2030; China hopes to have a 10 percent global market share in the industry beyond its own borders (Donnelly *et al*, 2010). There is also a recognition that major problems surrounding costs, vehicle safety and build quality will have to be overcome if Chinese firms are to compete in mature markets. This was made evident in the failure of Landwind vehicles to pass the German safety tests in 2005, which generated a bad publicity for Chinese-made products (Weernink, 2005). Therefore, a further rationalisation of the industry is needed by the government. As M&As are believed to be the key to achieving beneficial effects of economies of scale, the formation of automobile firms with large production capacity is expected to strengthen the global competitiveness of domestic automobile firms against their Western counterparts (Donnelly *et al*, 2010).

Apart from the merger between FAW and TAIC in 2002, the Chinese government has encouraged restructuring and consolidation in the automobile industry in recent years aiming at building world-scale giants, and some consolidations are already under way (Xiao *et al*, 2009). Good examples of this are SAIC's acquisition of NAC in 2007 (NAC, 2010); GAIC's acquisition of SUV specialist Changfeng Automobile in May 2009 (Changfeng Motor, 2010); Chang'an's acquisition of Zhonghang Automobile in November 2009 (Gansu Daily, 2009).

4.4.2 Automobile industry restructuring and revitalisation plan 2009

The world automobile industry was weakened by a substantial increase in the price of fuels linked to the 2003-2008 energy crisis[68] which discouraged purchases of sports utility vehicles (SUVs) and pickup trucks. Moreover, by the late 2008, the situation had turned even worse as the credit crunch imposed further pressures to the extent that the US automobile industry was the most affected with GM almost going bankrupt.

Table 21 – Automobile industry restructuring and revitalisation plan 2009

Stage	Description
2009 – 2012	1) The government would support consolidation into 2-3 large automobile conglomerates with annual production capacity of 2m units each, and 4-5 automobile groups with annual production capacity of over 1m units each 2) Top 10 firms should achieve 90 percent of the market share 3) Target output for 2009 is 10m units, and maintains a future growth rate of 10 percent each year until 2012 4) Encourage indigenous firms to boost the market share of Chinese brands to at least 40 percent 5) Promote segments with better fuel economy 6) Improve car legislation that restrains the car market and build a structure for electric vehicles

Source: adapted from Central People's Government (2010)

In order to ride out the effects of the crisis and maintain the stability of automobile consumption, Chinese government announced the automobile restructuring and revitalisation plan in January 2009 (Degen, 2009; Central People's Government, 2010). Table 21 shows the overview of the plan. Similarly, the government is intent on forcing the process of industry consolidation in the 2009 plan as it had done in the 1988 and 1994 AIPs. Different from the previous two AIPs, government emphasised on the development of indigenous firms for the first time. The government is encouraging indigenous firms to boost the market share of Chinese brands to at least 40 percent and so issued a very important signal to the state-owned and independent. In order to achieve the goal, short term measures were undertaken:

[68] The oil price rose from around $30 in 2003 to almost $150 in 2008 per barrel (BBC, 2008).

- Five percent purchase tax cut on low-displacement passenger cars with 1.6L or below during the period between 20 January and 31 December 2009
- One-time financial subsidies for purchasing low-displacement micro-buses with 1.3L or below and for the scrapping (replacement) of old vehicles by new vehicles during the period between 1 March and 31 December 2009

The plan also called for regulating and promoting the development of the second-hand car market, expediting the development of road construction and promoting the use of new clean energy cars (Xiao *et al*, 2009). In addition, it also called for standardisation and systematisation of automobile consumer credit regulations. Because of its economic importance, the automobile industry holds a special significance for governments, and even more so in times of economic distress. It is expected that the government will become more active in supporting the development of the industry.

Finally, taking a longer term view, it is clear that the government has played an important role in shaping the development of the Chinese automobile industry. Overall, its policy role has been positive although sometimes it brought intervention and negative results.[69] The conceptual framework designed in chapter 3 focused on three aspects related to the relationship between government and the Chinese automobile industry: government to the industry, government to the firm, and government at different levels (e.g. national, regional, and local). At macro-level, to the industry, government's industrial policies and focuses differed at different times. For example, from early protectionist approach to build up passenger car industry with foreign assistance in the 1988 AIP, to develop national champions in the 1994 AIP, to introduce the concept of harmonious development strategy and emphasis on component development in the 2004 AIP, to the latest encourage the development of indigenous firms and promote energy-efficient vehicles in the 2009 plan.

[69] Interview with Zhang Dongsheng, union leader, BAIC: Beijing, November 2009.

Meanwhile, at micro-level, for individual firms, government has always advocated and encouraged consolidation of the industry by mergers and acquisitions between automobile firms through market mechanisms as discussed earlier in section 4.4.1. However, the actual process has been slow for a number of reasons. Firstly, China's booming automobile market results in increasing number of automobile firms (e.g. BYD, Chery, and Geely). In this case, market itself can do little to hasten industry consolidation. Secondly, the biggest obstacle for government to promote industrial consolidation among the firms lies in how to balance the interests of local (e.g. provincial, municipal) authorities with the national interest. The central government has found it sometimes difficult to deal with local authorities as the locals have little desire to do so due to their own interests. The automobile industry is often seen by local government as a prestige or civic virility symbol as well as a generator of employment. [70] Until now, the industry has only witnessed few successful consolidation cases. Therefore, a further push by the government is needed, particularly with central government's strong intervention and enforcement. [71] The outcome will depend ultimately on whether or not the central government can impose its will on the provinces.

5. Summary

Chapter 5 analysed the development of the Chinese automobile industry via a historical line. The country's automobile development up to 2004 can be divided into three periods. In the time of the closed period (1949 – later 1970s), there was virtually no foreign investment except early support from the USSR. China failed to develop its own automobile production capacity, particular passenger cars. Moving to the

[70] Interview with Han Guang, vice general secretary, China Automotive Industry Economic and Technological Information Research Institute: Beijing, December 2009.
[71] Interview with Xia Baoshan, business operating director, BAIC: Beijing, November 2009.

transition period (later 1970s – mid 1990s), the ideology of the central government changed after witnessing rapid economic growth of some East Asian countries (e.g. Japan, South Korea). The government decided to change the country from a centrally-planned to a more market-oriented economy. For the automobile industry, foreign automobile firms started to enter China by forming JVs with local state-owned firms. The development period (mid 1990s – 2004) saw China integrating further with the global economy by joining the WTO, and meanwhile, a number of indigenous automobile firms began to rise to prominence.

The chapter also viewed the most recent development of the industry (2004 – 2010) by combining with the conceptual frameworks designed in chapter 3 regarding globalisation, FDI, the role of government, and industrial clusters. China's increasing integration with the world economy as a result of economic reform and open door policy as well as its huge population and market potential has attracted foreign automobile firms entering with massive capital, the FDI brought by foreign firms contributed enormously to the development of the automobile industry, for example, technology, component, and value chain. Although the industry has made various achievements during the last 3 decades such as building production capacity, indigenous firms with self-owned brands, and overseas takeover, others like the battle between central and regional governments over rationalisation and consolidation of the industry, and how to improve quality and safety of the vehicles in order to fully compete in an international market remain challenging.

CHAPTER SIX – CASE STUDIES

1. Introduction

The year 2003 was a watershed in China's automobile modernisation, when the ratio of the units of foreign branded automobiles in China's total output of passenger cars started on a downward trend, dropping from a high of 90 percent in 2002 to 76.4 percent in 2003, 66.71 percent in 2004, and 57.44 percent in 2005 (Chin, 2010). This shift was mainly due to rapidly increasing production levels of China's indigenous automobile firms. Here, we define 'indigenous' as all Chinese-owned automobile firms, including both long-established state-owned automobile firms (e.g. FAW, SAIC) and those newly established firms which emerged from the 1990s onwards, examples of which are BYD and Geely, and which are often privately owned. The rise of these indigenous automobile firms with home-grown and self-owned brands as well as their sophistication in product quality, exterior style, and engine development signalled that the Chinese automobile industry has passed a major threshold in modernisation (Chin, 2010).

Over the past decade, China has witnessed the growth of small new indigenous automobile firms, described as new entrants to the industry (e.g. Chery, Geely) (Zhang and Tian, 2006). It is important to realise that such new entrants which only started producing in the late 1990s have reached fairly high rankings in the Chinese automobile production leagues considering the number of both foreign and domestic firms that compete in this market. For example, amongst all Chinese automobile firms, Geely was ranked third followed by Chery in fourth position in terms of total production (excluding JV production) in 2010 (OICA, 2011). A key to understanding

the success of these firms is that they dare to think and act.[72] This is quite understandable as to some extent firms have no route to retreat once committed to the automobile industry.[73] Moreover, decisions which take a long time to be processed in state-owned firms take a shorter time in these firms due to their flatter management structures and relative freedom from political interference.[74] Compared with their successful performance domestically, the new entrants have also started exporting their cars, although mainly to soft markets (e.g. Latin America, South Asia) where standards and quality are less demanding than in Western Europe. For example, Chery exported nearly 120,000 units and Geely exported nearly 30,000 in 2007. Because of the rapid expansion of exports by Chery and Geely, China's passenger car exports which had been less than one thousand until 2002 have surpassed imports in 2007 in terms of volume (Chin, 2010).

Figure 29 – Location of major Chinese indigenous automobile firms

Source: adapted from Automotive News Europe (2008)

[72] Interview with Duan Changzhao, journalist, Beijing Automobile News: Beijing, December 2009.
[73] Interview with Li Xiufeng, office director, BAIC: Beijing, November 2009.
[74] Interview with Li Bing, plan & product director assistant, BAIC: Beijing, November 2009.

With regards to location, Figure 29 shows where the major indigenous firms are based. Most are located in either traditional industrial area of north China (e.g. Brilliance, FAW) or eastern coastal areas (e.g. BYD, Geely, SAIC). As discussed earlier in chapter 5, these new firms had been doing business in automobile related fields (e.g. motorcycles, components) before entering the automobile industry; as a consequence, they are primarily located within the automobile clusters alongside large state-owned firms (e.g. FAW, SAIC) and their JVs with foreign firms. Table 22 below provides statistics on the output of the major Chinese indigenous firms between 2005 and 2010, and their production as a percentage of total output.

Table 22 – Production of major indigenous automobile firms in China, 2005 – 2010 (millions of units)[75]

Firm	2005	2006	2007	2008	2009	2010
Chang'an	0.422	0.523	0.544	0.531	1.426	1.510
BAIC	0.559	0.374	0.454	0.447	0.685	0.616
SAW	0.593	0.352	0.437	0.489	0.663	0.650
FAW	0.539	0.479	0.691	0.638	0.650	0.896
Chery	0.185	0.319	0.428	0.351	0.509	0.692
BYD	0.051	0.060	0.100	0.193	0.428	0.521
SAIC	0.518	0.252	0.313	0.282	0.346	0.347
Jianghuai	0.167	0.175	0.210	0.208	0.337	0.439
Geely	0.149	0.207	0.215	0.221	0.330	0.802
Brilliance	0.109	0.190	0.294	0.242	0.314	0.434
Sum	3.332	2.931	3.686	3.602	5.688	6.547
% of total	58.4	40.8	41.5	38.7	41.2	35.8

Source: adapted from OICA (2011)

Indigenous firms accounted for nearly 60 percent of total production in 2005; however, their output share dropped to just over 35 percent in 2010. The drop was in part due to a decrease of tariffs (from 80 percent to 25 percent) and the phasing out of import quotas which gave an opportunity for an increase in imported vehicles made by foreign firms. With regards to individual performance, the state-owned Chang'an

[75] Excludes JV production with foreign automobile firms.

became the biggest indigenous automobile firm in 2010 with 1.5 million units (OICA, 2010; 2011). The acquisition of two indigenous firms – Changhe Automobile Ltd and Hafei Automobile Group by Chang'an in 2009 has boosted the firm's production capacity dramatically. Chang'an is followed by other long-established stated-owned firms – FAW and SAW.

From the list of firms in Table 22 above, the author has selected three firms for case studies. These firms are: Geely (the first Chinese private-owned automobile firm), Chery (a state-owned Chinese firm), and Beijing Hyundai (a joint venture between BAIC and foreign entrant, Hyundai). As previously discussed, the case study approach allows the exploration and understanding of a social phenomenon (e.g. the Chinese automobile industry) and it is considered to be a robust research method particularly when an in-depth investigation is required. There are a number of reasons for selecting Geely, Chery, and Beijing Hyundai for detailed examination. Firstly, little attention has been paid to the firms selected. Previous research on Chinese automobile industry has analysed large traditional state-owned firms and earlier established international JVs, although for different purposes. For example, Harwit (1995) chose Beijing Jeep, Guangzhou Peugeot, Panda Motors, and Shanghai VW to present the conflict between central and local government as well as the bargaining between the central government and foreign investors. Thun (2006) selected Beijing Jeep, FAW, SAW, and Shanghai VW in order to demonstrate the differences in bureaucratic structure of the local governments which lead to their different behaviour patterns when they work with foreign firms. Gallagher (2006) picked Beijing Jeep, Chang'an Ford, and Shanghai GM in order to show how these three JVs have dealt with technology innovation. A more recent book on the Chinese automobile industry – Chin (2010) selected Shanghai VW and Shanghai GM aiming to illustrate how local

governments and VW have worked together to sustain modernisation drive and the entry process of GM respectively. It is perhaps worth mentioning that Chin did talk about the Chinese home-grown brands and models, but only fleetingly. Through an in-depth analysis of the three firms, the author's research adds to existing knowledge on the Chinese automobile industry.

Secondly, they have been chosen to represent the different types of operations extant in the Chinese automobile industry. There are currently three main types of operations in the Chinese automobile industry among the total of around 130 assemblies including: stated-owned (e.g. Chery), international JV (e.g. Beijing Hyundai) and domestic private (e.g. Geely). This research decided to select one firm from each of the three different operation forms aiming to give a view of how different firms operate in the Chinese automobile industry.

Finally, three case studies are chosen in order to provide a wider perspective than a single case study. In addition to the fact that the chosen three automobile firms operate differently from each other in terms of organisation structure, they also differ with respect to size of the firm, method of entry, and product segmentation. Therefore, it gives an opportunity for cross-case analysis and comparison. The chapter begins by analysing each of the firms from various aspects such as method of entry, product development, manufacturing landscape, and future challenges, as well as the effects of government, globalisation, FDI, and industrial clusters in their development process. Comparisons are drawn between the firms. In essence, the cases presented provide the originality of work in the thesis.

2. Geely

2.1 Background

Being the first ever private-owned indigenous automobile firm, there has been much speculation over Geely in terms of how an automobile firm that came from a different type of organisational structure from state-owned automobile firms would survive and develop. The case first of all outlines Geely's development process and its current production landscape. It then analyses the firm's product and segmentation strategies. Later, it discusses the potential impact of the new entry on the global automobile industry by examining opportunities and threats faced when entering markets. Lastly, the case also relates Geely to theoretical frameworks set out in chapter 2.

Success never comes easily. Toyota started out in 1890 making wooden handloom machines destined for the textile industry (Smitka, 1990). Peugeot manufactured ironmongery, coffee grinders, umbrella frames, and bicycles before launching automobile production in 1876 (Wang, 2008). A century later, Geely embarked on its automobile adventure after being in several businesses and became the 3rd biggest Chinese automobile firm in terms of total production[76] in 2010 (OICA, 2011).

"Behind each successful firm, there must be a great entrepreneur or professional manager" (Wang, 2008: 518). The chairman of Geely Automobile, Li Shufu, was born in 1963 into a farmer's family from Taizhou city (Zhejiang province). Li is the third born of four brothers and started a hardware business at the age of twenty with his brothers (Geely, 2006; Forbes, 2009). With the original capital accumulated from the hardware business, Li began to set up factories for refrigerator evaporator

[76] Firms were ranked according to their annual production (excluding JV production) based on OICA statistics.

production with himself as the principal shareholder. He bought a fridge and took it apart by himself and became familiar with its structure and configuration. Then he established himself as a dealer to supply components to fridge makers before establishing his own firm in 1984 (Wang, 2008).

Li's refrigerator component manufacturing started a time when domestic demand for electronic appliances increased rapidly due to China initiating its economic reform and opening up to the outside world (Wang, 2008; Marukawa, 2008). Following a brief period of massive product importation, hundreds of production lines for assembling refrigerators were imported by domestic firms. The huge demand for refrigerator parts lured Li into the component business. After acquiring premises, Li built the firm in his hometown and its first major success was accomplished through selling components nationwide via dealership. However, the over-heated economy of the late 1980s provoked strong government intervention to dampen demand (Wang, 2008). With the aim of rationalising the industrial structure and preventing uncontrolled expansion, the government started to suppress investments in refrigerator production in 1989 (Marukawa, 2008). As a result, only designated firms were accorded the rights of producing refrigerators and related components. Without a manufacturing license, Li was obliged to close the plant and seek an alternative outlet for his talents.

At the beginning of the 1990s, the motorcycle industry was booming in China and Li decide to invest in it. To enter the market, Li had to overcome not only technology barriers (e.g. engine design, mechanism), but also institutional regulations (Wang, 2008). During this period, production licenses were granted only for state-owned firms. To get round this, Li entered the motorcycle market with capital from retained

earnings of previous business (e.g. hardware, refrigerator) in 1994 by bailing out a nearly bankrupt state-owned firm in Hangzhou (Zhejiang province) (Wang, 2008; Marukawa, 2008; F. Li, 2009; Auto Evolution, 2010). In its first year, initial sales were impressive with 60,000 units being sold in 1995 before rising to 200,000 units in the following year (Auto Evolution, 2010). At that time, cities (e.g. Guangzhou) with high income consumers were the primary target market.

Geely's success in the motorcycle industry was partly due to its early entry into the industry and partly because of its clear understanding of the market's dynamics; for instance, it produced the first scooter in China, and as a result sales volume increased rapidly. Production volume was then expanded to 400,000 units in 1999, and the annual production capacity of motorcycles reached 600,000 units in 2000 (Wang, 2008; Marukawa, 2008). At the time of writing, Geely is now one of the leading motorcycle firms in China and its products range from 50cc to 300cc with a total of 80 different models (Geely Bike, 2010). Growth was financed mainly via retained earnings and bank loans. Success is also evident in export markets as the firm also exports to over 20 countries around the world including developed markets such as Germany, Italy, and US (Wang, 2008; Geely Bike, 2010).

As discussed in chapter 5, before entering the automobile industry, many of the indigenous firms worked in areas related to the automobile industry where their technologies, work processes, and organisational structures were broadly similar and many skills proved transferable across sectors. For example, Geely worked in the motorcycle industry and Chery worked in the automobile components industry. Therefore, based on the success of the motorcycle business as well as the potential of the automobile industry developed during the country's industrialisation in the 1980s

and the 1990s, Li tried to enter the automobile industry in 1997, but his application was rejected (F. Li, 2009). Industrial policy, however, and regulation barriers imposed by central government were significant (Geely, 2009a; Auto Evolution, 2010). For example, the 1994 AIP (discussed in chapter 5) was introduced to rationalise the industry. Therefore, the approval process for new firms was extremely stringent due to the already fragmented automobile industry. Moreover, Li possessed little credibility at that time due to his relative lack of technological and management experience in the automobile business to whose capital requirements, technologies and organisational demands were much more complex than those in either the refrigeration or motor cycle sectors (Wang, 2008).

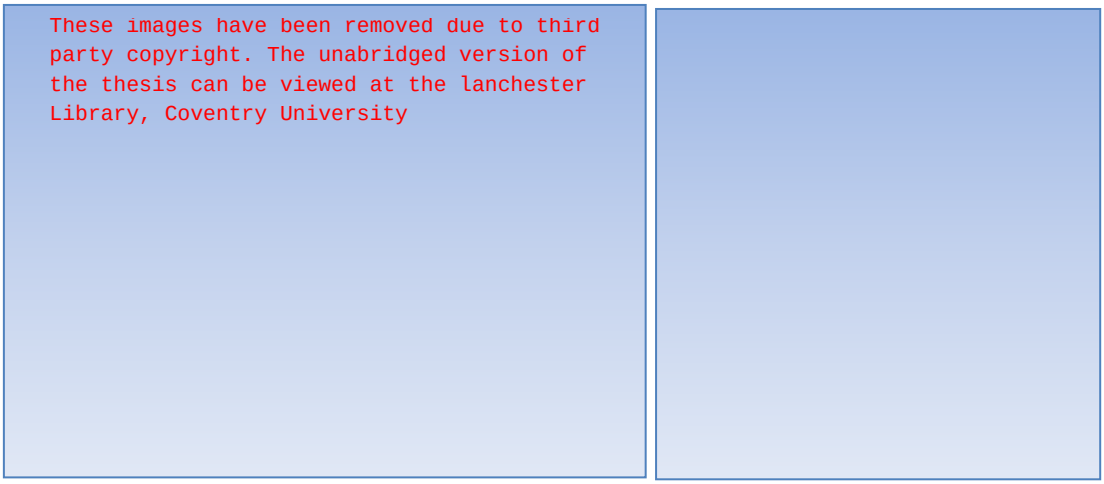
In order to overcome the barriers mentioned above, in 1998, Geely acquired a nearly bankrupted state-owned firm in Deyang county (Sichuan province) which had a license to produce small buses while continually approaching various authorities[77] (Alon *et al*, 2008; Wang, 2008; Marukawa, 2008). Eventually, Geely was officially registered as an automobile firm in December 2001, several days before China's accession to the WTO, and became the first Chinese private automobile firm (Wang, 2008; BBC, 2009c). Finally, in 2005 Geely was listed on Hong Kong Stock Exchange (HKSE) with Li Shufu as chairman (BBC, 2009d; Geely, 2009a).

Today, Geely, headquartered in Hangzhou (Figure 30) and China's largest private-owned automobile firm, has transformed itself into a multi-structured group with the scope encompassing decorating materials, trading, tourism, and higher education (Wang, 2008; China Daily, 2009a; Beijing Geely University, 2007). The diversification strategy has enabled Geely to gain synergies and extend its brand in

[77] For example: Li Rongrong, former Minister of State-owned Assets Supervision and Administration Commission (SASAC) of the State Council, P.R. China.

order to achieve economies of scale and scope; and this diversification are backed and financed primarily by its profits (Geely Annual Report, 2010).

Figure 30 – Geely's headquarters and logo[78]



Source: Geely (2009a; b)

With regards to the automobile sector, Geely operates via five major wholly-owned subsidiaries: Zhejiang Geely Automobile Co., Ltd, Shanghai Maple Guorun Automobile Co., Ltd, Zhejiang Kingkong Automobile Co., Ltd, Zhejiang Ruhoo Automobile Co., Ltd, and Hunan Geely Automobile Components Co., Ltd (Geely Annual Report, 2009). Geely originally held a strategic holding in Shanghai Maple in 2002, and in 2008 it fully acquired the firm while the other subsidiaries were established through direct investment by Geely taking a significant stake (Geely Annual Report, 2009). Currently, Geely's automobile businesses employ a total of 12,000 people, comprising 697 independent exclusive franchise stores and 341 4S stores across most of China's first and second tier cities (BBC, 2009c; Geely Annual Report, 2010).

2.2 Manufacturing landscape

Fifteen years after Geely entered the automobile industry; it owned nine automobile production plants (Table 23) in China with a total usable annual production capacity

[78] Geely (Chinese: 'Ji Li') literally means auspicious or lucky in Chinese.

of 560,000 units in 2012. With the exception of Lanzhou plant, which is not equipped with stamping facilities, the other eight production plants are all fully-integrated plants, comprising stamping, welding, painting, and assembly facilities. Geely has four engine plants located in three places (Linhai, Ningbo, and Shanghai) with a total annual production capacity of 450,000 engine units; moreover it has two gearbox plants, one in Ningbo and the other in Australia (acquisition of Drivetrain Systems International) with a total of combined production capacity of 600,000 units (Geely Annual Report, 2010).

Table 23 – Geely's current production plants, capacity, and models in China

Plants	Date	Capacity	Examples of models produced
Linhai	1997	75,000	Geely Panda (1.0L, 1.3L)
Ningbo	1999	150,000	Free Cruiser (1.3L, 1.5L), Emgrand EC7 (1.8L)
Shanghai	2002	100,000	Maple series (1.3L, 1.5L, 1.8L), TX4 (2.5L)
Luqiao	2004	100,000	Geely Kingkong (1.5L), Geely Jin Ying (1.5L)
Xiangtan	2006	50,000	Vision (1.8L)
Lanzhou	2006	25,000	Free Cruiser (1.3L)
Jinan	2009	30,000	Emgrand EC8 (2.5L)
Chengdu	2009	30,000	GX7 (1.8L), Volvo
Cixi	2011	120,000	Emgrand EC7 (1.8L)

Source: adapted from Geely Annual Report (2009; 2010) and People's Daily (2011)

As shown in Table 23, the Linhai and Ningbo plants were Geely's first two manufacturing facilities. Moving to the 2000s, the Shanghai plant was established in 2002 by acquiring Shanghai Maple, followed by Luqiao in 2004. Between 2006 and 2011, Geely built five plants mainly funded by its own operational cash flow and reserves as well as bank loans from commercial banks in China (Geely Annual Report, 2010)

Figure 31 gives us a geographical view of Geely's production plants. Of the five plants (e.g. Jinan, Lanzhou, Chengdu, Xiangtan, and Cixi) constructed after 2006 four (e.g. Jinan, Lanzhou, Chengdu, and Xiangtan) are located outside of Zhenjiang

province where Geely is headquartered. These four plants were built strategically as production plants at different locations in China to benefit from the proximity of new demand (e.g. cities like Lanzhou and Qinghai in west China), lower costs, and where there is access to additional financial resources from provincial and local authorities. For example, the Lanzhou and Xiangtan plants were built with Geely's aim to cover north-west and south China respectively while the Jinan and Chengdu plants, show Geely's ambition to explore north and south-west China respectively.

Figure 31 – Location of Geely's automobile production plants in China

Source: adapted from Geely Annual Report (2009)

The earlier established plants of Linhai, Luqiao, Nibo, and Shanghai are located close to each other (and to Cixi) as shown in Figure 31 and they accounted for more than 80 percent of Geely's total production in 2009. In the broader area of the Yangtze River Delta there are a number of other automobile firms operating. For example, to the north (180km) of Geely, there are SAIC and its JV partners – VW and GM; to the

west (280km), there is Chery (discussed later) in Wuhu (Anhui province), another Chinese indigenous which used to operate under SAIC and got its independence in 2004 (Chin, 2010). The triangular-shaped region of Wuhu, Shanghai, and Hangzhou generally forms one of the six automobile clusters (Figure 25) in China. In addition, the delta is one of the most densely populated regions (100 million) in China and includes some of the fastest-growing provinces, and it has consistently occupied over 20 percent of China's GDP in recent years (Luo *et al*, 2009)

If we recall the industrial clusters theory discussed in chapter 2, industrial zone, capacity building, anchor firm, and supporting firms are four required conditions to form a cluster under Kuchiki's flowchart approach (Kuchiki, 2005; 2007; 2008a, b). In this case, the Yangtze River Delta economic zone is dominated by Shanghai which is China's financial centre as well as by other important hub cities such as Hangzhou and Ningbo. The vast interior of the Yangtze River Delta is also heavily industrialised with advanced transport infrastructure such as highways, expressways, airports, and ports. Moreover, Shanghai predominates in automobiles and logistics industries with Ningbo being a growing economic port providing import and export routes for neighbouring provincial cities. Many automobile component firms were established within the region with a few (e.g. Geely, Chery) entering the automobile production industry later (Luo, 2005).

2.3 Product development

Without any previous experience in the automobile industry, Geely developed its own first model – 'Haoqing' in 2000 (Wang, 2005). The model was based on FAW Xiali, a small entry level car, which was the result of technology transfer from Daihatsu – Toyota's affiliate (Wang, 2008). A small number of FAW Xiali were purchased and

then deconstructed. As a result, many suppliers of FAW Xiali were also contacted for the purchase of components. At the beginning, around 60 percent of components were purchased directly from the suppliers of FAW Xiali and the rest either came from suppliers of other foreign automobile firms in China or suppliers who produced copies of components of the best selling automobiles (Wang, 2008). For example: the bumper was purchased from a Japanese supplier located in Guangzhou and the head lights were similar to those of Benz luxury cars (Lee *et al*, 2002). This phenomenon is often referred as 'quasi-open architecture' which is defined as "imitation-turned-versatile parts are being gathered and assembled by firms and this is different from a full-fledged design based on a carefully worked-out plan" (Fujimoto, 2002: 35).

Until the mid 1990s, most automobiles in China had been produced almost entirely by foreign firms as well as the long established state-owned firms which officially introduced technology from their foreign partners (Lee *et al*, 2002). Geely has played the role of being a pioneer in having open architectures in its models and in adopting a method of automobile manufacturing close to an 'open modular style' by purchasing engines and transmissions from foreign firms (Fujimoto, 2002; Lee *et al*, 2002). Other Geely models, such as the Maple Huapu and the Marindo, were also characterised by quasi-open modular architecture. These models were based on imitating the Citroen ZX which was assembled in the SAW Citroen JV. Most of the imitation and remodelling were on body and chassis, and the majority of the components came from the suppliers of SAW. Unlike the Haoqing model, Maple cars were equipped with Geely engines. In fact, Geely's engine was derived from a Toyota model. Indeed, combining the new engine with components taken from different internal models proved a challenge for Geely (China Daily, 2003; Luo *et al*, 2009).

In parallel to imitation and remodelling, Geely started designing its own models by working closely with Toyota through reverse engineering in 2001 (Wang, 2008). It hoped to have a long-term cooperation with Toyota on design, modelling, and engine and product architecture; however, when Toyota sensed the strong dependence of Geely, it started to behave in an opportunistic manner by increasing royalty payments which led to the soaring costs of technology transfer (Wang, 2008). Geely then started to work on its own by converting the technology into its own assets. It started to build up its own technological capacity by recruiting experts from overseas and domestic sources (discussed in the next section). By 2010, Geely had around 35 car models including Shanghai England with Manganese Bronze Holdings of Britain and newly acquired Volvo from Ford.

With future product development in mind, Geely's development will focus on the development of 5 core technology platforms, 15 product platforms, and 42 brand new models by 2015, within the same technology platform aiming at increasing the proportion of shared parts (e.g. power train, drive shaft, and other components across models as part of cost control) between different models up to 70 – 80 percent so as to achieve better economies of scale, much lower production development costs, shorter development cycles, and easier and more effective quality control (Geely Annual Report, 2010).

2.4 Product segmentation

The total sales volume of Geely automobiles in 2010 were 415,843 units (Figure 32), an increase of 27 percent over 2009, raising its share in the Chinese automobile market to 2.3 percent (Geely Annual Report, 2010; Prime International Consultants, 2010). Of these, 20,555 units or 5 percent were sold abroad, a 6 percent increase

compared to 2009; in the domestic market, Geely's sales volume in 2010 was up 29 percent on the year before, to 395,288 units (Geely Annual Report, 2010). The firm also generated RMB 20.1 billion revenue in 2010, a 43 percent increase compared to 2009; profit attributable to the equity holders of the firm amounted to RMB 1.37 billion, representing an increase of 16 percent over 2009 (Geely Annual Report, 2010).

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Source: Geely Annual Report (2010)

Source: Geely Annual Report (2010)

Geely's sales performance in 2010 was mainly due to the strong demand for its three key models (Table 24): 'Free Cruiser', 'Geely Kingkong', and 'Emgrand EC7'. These

[79] Includes sales overseas.

three models accounted for 61 percent of the total sales in 2010. Free Cruiser remained the firm's best selling model, accounting for 23 percent of Geely's total sales volume, making it one of the best selling 1.3L passenger cars in the China market in 2010 (Geely Annual Report, 2009; 2010).

However, if we compare the sales volume of 'Free Cruiser' to the year 2009, it declined by 14 percent while the sales volume of 'Geely Kingkong' was only maintained at the previous year's level (Geely Annual Report, 2010). The decline was due to disruption caused by major restructuring of the 'Geely' and 'Maple' brands distribution networks to pave way for the transition of the Group's brands from 'Geely' and 'Maple' to the three new brands – 'Gleagle', 'Englon', and 'Emgrand'(Figure 33) (Geely Annual Report, 2010).

Figure 33 – Geely's brands

Source: ACD (2012)

These three new brands were introduced to implement Geely's new multi-brands strategy, aiming to improve the firm's overall brand image and to have a product in every market segment and to enable tailored-made services and brand positioning for different product lines within the firm. In other words, Geely was and is trying to move upmarket where unit sale profitability is normally higher than in the lower market segments. The 'Gleagle' (e.g. Geely Panda, Free Cruiser, and Vision) was introduced by Geely as an entry level brand, targeting the small passenger car

segment. The ‘Englon’ (Shanghai England) was launched through the introduction of the TX4 London Taxi models manufactured by Shanghai LTI Automobile Components Co., Ltd (Shanghai LTI) (Geely, 2009c). It covers the firm’s classic and professional models (e.g. Geely Kingkong, SC7). Finally, the ‘Emgrand’ had two models (the EC7 passenger car and the EC7-RV hatchback wagons) in 2009 (Geely Annual Report, 2009). With the launch of the EC8 in 2010, the brand symbolises a concept of luxury and mainly targets the large passenger car market (Geely Annual Report, 2010).

As a result of the shift of Geely’s sales from low-priced models like ‘Maple’ and ‘Free Cruiser’ to higher-priced models like the ‘EC7’ and ‘SC7’, and the new addition of more high-priced models like the EC8 series of large size passenger cars in the product line, Geely’s average sales price improved significantly in 2010, rising 12 percent to RMB45,000 (Geely Annual Report, 2010). Higher-priced models like ‘Vision’, ‘EC7’, and ‘SC7’, which are retailing at between RMB56,000 to RMB160,000, accounted for 46 percent of the Group’s total sales volume in 2010, compared with only 22 percent in 2009 (Geely Annual Report, 2010).

2.5 Going global

Compared with other leading Chinese automobile firms which mostly are state-owned, Geely was built with private capital, and to start with, it competed at the lower end of the market and now has products in almost every segment including luxury large passenger cars (e.g. EC8) as discussed in section 2.4. Geely's focus is also different from those of the state-owned firms which tend to partner with foreign automobile firms and focus on the Chinese market more than the overseas. Geely did not seek a JV as the Chinese government often favours state-owned domestic firms to partner

foreign automobile firms. Instead, Geely sought to acquire foreign firms (e.g. Volvo) and is trying every opportunity it has to leave its footprint in the global automobile industry.

2.5.1 Exports

Geely exported 20,555 units of passenger cars in 2010, up 6 percent from 2009, and accounted for 5 percent of its total sales volume; however, Geely's share of China's total exports of passenger cars decreased from 19 percent in 2009 to 11 percent in 2010 (Geely Annual Report, 2010). 'Geely KingKong', 'Free Cruiser', and 'Geely Panda' were the most popular export models in terms of sales volume in 2010, accounting for 40, 32, and 14 percent respectively of the total export sales volume (Geely Annual Report, 2010). Geely's export volume remained at a low level in 2010 as the restructuring of the distribution channels in major markets like Russia has yet to be completed. Despite additional demand from new markets like Turkey, Indonesia, and Cuba, these were not enough to offset the low level of sales in Russia. Developing countries in Middle East, Eastern Europe, and Central and South America remained the most important markets for the Geely's exports. This, together with the major effort to restructure the export channels and to open up new markets, should bode well for continued improvement in future of Geely's export performance. Geely currently exports its products to 36 countries through 36 exclusive sales agents and 344 sales and service outlets in these countries (Geely Annual Report, 2010).

Geely also assembles some of its models sold overseas using contract manufacturing arrangements with local partners in Russia, Ukraine, and Indonesia. Russian and Ukrainian plants were built by Geely as springboards to enter the European market while the Indonesian plant was chosen by Geely to provide access to the South East

Asian market. The Ukrainian plant started commercial production in April 2007, followed by the plant in Jakarta of Indonesia in May 2007 (Machinery and Electric Products Export Guidance, 2007a; China Cars, 2008). Geely initially planned to produce cars in Malaysia, but the proposal was rejected by the Malaysian government who considered Geely as a direct competition to the national car – Proton, and would allow Geely products to be assembled in the country only for export. As a result, Geely switched to Indonesia (Machinery and Electric Products Export Guidance, 2007a). The Indonesia plant mainly assembles Geely's Free Cruiser in the form of CKD. The Russian plant was constructed in the second half of 2007. The overall production of these three plants is expected to reach 70,000 – 80,000 units per year. However, Geely's CKD plant in Russia was suspended in 2009 after the Russian government introduced a 35 percent duty rise on imported automobile parts, which was aimed to protect its domestic motor industry (CAAM, 2010). An alternative route to growth was through forming a partnership with Derways – a body constructor in the Republic of Karachay-Cherkessia which led to the opening of a plant to produce around 12,000 Geely models annually (CAAM, 2010).

2.5.2 Establishment of international joint ventures

Apart from exporting, Geely also engages in FDI to pursue technological know-how whilst expanding its market. For example, as well as being involved in international acquisition (e.g. Volvo), it set up a JV with Manganese Bronze Holdings (MBH) PLC of UK, the maker of the iconic London taxi, by forming Shanghai LTI Automobile Components Co., Ltd in 2007 (Geely, 2009c; d). The JV is 52 percent owned by Geely and is to achieve volume production of the London taxies at a significant lower cost and for the production of other higher-end saloon cars for sale to the domestic and the world market (Geely, 2009d).

As for Geely, the technological know-how obtained through MBH has helped to generate significant sales volume, for example, both the Geely Kingkong and SC7 models (Table 24), operate under Shanghai LTI, and accounted for 33 percent of Geely's total sales volume in 2010. Thus, MBH's entry to China fits well with the specific advantage theory of Hymer that a firm possessing a specific advantage in a product market has an added incentive to engage in international operations. In addition, Geely plans to use MBH as springboard to get access to advanced markets such as the UK, and indeed, Geely has announced that it has done a distribution deal to enter the UK car market with the first cars for sale by the end of 2012 and it has also reached agreement with the UK's MBH to become their UK distributor of Geely cars (Just Auto, 2011). Under the agreement, MBH will also establish a dealer network, supply parts and provide an after-sales service (Just Auto, 2011).

Shanghai LTI became the first international JV formed between a Chinese private automobile firm and a foreign firm. To some extent, it is the result of loosening of the government policy and regulation.[80] Although the JV started to generate a profit just two years after its establishment, it is still at the very early stages of development. Here, questions may be raised: how sustainable is the partnership? Since Geely is a privately-owned firm, if problems arise would the Chinese government intervene in its favour? Will Geely be swallowed by its foreign partner and eventually become a subsidiary of MBH? As MBH is relatively small compared to other foreign JV partners such as GM and Toyota, the size factor may be conducive to the continuation of the JV. Moreover, the fact that MBH is a niche producer with a clear target market may just help the JV to work successfully. Nevertheless, time will tell.

[80] Interview with Xia Baoshan, business operating director, BAIC: Beijing, November 2009.

2.5.3 Acquisition of Drivetrain Systems International

Apart from establishing foreign CKD/SKD plants and forming a JV, Geely's internationalisation has also involved buying-in technology as part of FDI aiming to enhance technological capacity. This method is quicker than organic growth especially if a firm lacks the necessary R&D expertise. Access to new technology and skills is one of the reasons identified in the literature review as to why firms may become involved in FDI. The acquisition of Drivetrain Systems International (DSI) Pty Ltd by Geely in 2009 was the first foreign investment from a Chinese automobile firm since the global financial crisis of late 2008 (Geely, 2009e). DSI of Australia is a leading global transmission developer. Its headquarters and technology centre are located in Springvale (Victoria, Australia), and its manufacturing facilities are located in Albury (New South Wales, Australia) with a production capacity of 200,000 units per annum (Geely Annual Report, 2009). The firm mostly produces four-speed and six-speed automatic transmissions (Jin, 2009). In addition to new six-speed front wheel drive transmissions, DSI is also developing a range of new products including high torque seven-speed and eight-speed automatic transmissions, and hybrid transmissions (Geely Annual Report, 2009).

Acquisition of DSI, an example of buying in technology, enhanced Geely's technological and manufacturing capabilities in the areas of automatic transmissions, which is strategically important to the firm's core business of automobile manufacturing. Geely plans to use DSI to supply some of the firm's in-house requirements for automatic transmissions as well as the requirements of other automobile firms. In addition to DSI's existing production base in Australia, Geely is implementing plans to build new manufacturing facilities for DSI in China to expand

DSI's share in the Chinese market and to further reduce DSI's production costs (Geely Annual Report, 2009).

2.5.4 Goldman Sachs engagement and acquisition of Volvo

From FDI's point of view, Geely's acquisition of Volvo has a number of implications: firstly, the takeover has given Geely an opportunity to get access to new technology and skills as well as new/different forms of work organisation and managerial expertise; secondly, the acquisition also indicates that the Chinese automobile industry as whole has started to enter the stage 3 of Dunning's investment development path (IDP) discussed in chapter 2.

Volvo has been 100 percent owned by Ford since 1999 and is one of the automobile industry's strongest brands, with a long and proud history of world-leading innovations (Volvo, 2008). At the end of 2008, Ford announced a strategic review of Volvo that included a potential sale of the firm. Negotiations with interested parties went on during 2009 and resulted in Geely being named as preferred bidder at the end of October (China Daily, 2009a). On 23 December, Ford confirmed that all substantive commercial terms relating to the potential sale of Volvo had been settled between Ford and Geely (China Daily, 2009a). The final sale agreement was signed in March 2010 with a total amount of $2 billion (BBC, 2010). Geely's acquisition of Volvo happened at a time when the Volvo brand had been suffering from declining sales, from a peak of approximately 450,000 units in 2007, sales of Volvo brand vehicles dropped by 22 percent, to less than 350,000 units in 2009 (Volvo, 2010)

Acquisition offered Geely an access to a famous brand, dealerships, high levels of specification, modern technology, organisational expertise, a sophisticated supply chain, and a significant presence in the markets of Europe, US, and elsewhere. Of

these several factors, three were particularly crucial to Geely's acquisition on Volvo (Bonnell, 2009). The first is brand image which usually takes a long time to build in the automobile industry, and a firm's brand represents that reputation. Although Volvo sales are declining; the brand remained strong and well established. The decrease in sales was largely due to the damage brought by the financial crisis particularly on the US automobile industry as well as the low priority placed on the brand by Ford (Bonnell, 2009). Under new ownership, and with the right care, the Volvo brand could thrive again. The trick for Geely would be to quickly grasp the character of the brand, to understand the source of value for the brand, and to continue to invest to fortify the brand.

Table 25 – Top ten markets for Volvo in 2008 and 2009

	2008	2009
US	73,078	61,426
Sweden	47,775	41,826
UK	33,341	34,371
Germany	27,053	25,221
China	12,640	22,405
Italy	16,653	15,896
Netherland	16,742	14,035
Belgium	12,872	13,223
France	11,745	11,596
Spain	9,876	8,306
Sum	261,775	248,305
As % of total sales	69.94	74.16

Source: adapted from Volvo (2010)

The second advantage is a global footprint. Through its acquisition of Volvo, Geely has been enabled to become a global firm on which to build. With a strong presence in Europe and US, Geely would gain experience and reputation in these top markets. According to Table 25, in 2008 and 2009 Volvo's sales were mainly concentrated in developed countries, particularly US, Sweden, UK, and Germany, with China, as a developing country, also playing as an important destination. The ten biggest markets

accounted for nearly 75 percent of Volvo's total sales in 2009. Additionally, the acquisition would give Geely access to global supply base and distribution networks.

Thirdly, through acquiring Volvo, Geely has acquired a talented and capable management team, with high degree of international experience. Volvo managers have always enjoyed the respect of the industry and possibly Geely's lack of experience overseas can be mitigated by building good relationships with the existing management team. The international experience of Goldman Sachs, Geely's investment partner, could also serve to bridge any gaps in communications between management and owners (Bonnell, 2009). Additionally, Geely will find it imperative to build a close working relationship with Ford – the previous owner of Volvo, because the current Volvo models are built on Ford-Mazda platforms and many of the parts are shared across models. Moreover, the costs of developing new models would likely be prohibitively expensive for the combined Volvo-Geely volumes (Bonnell, 2009). In the end, scale and efficient management of that scale are key contributors to success in global automobile industry, and they will determine the success of Geely. The Volvo acquisition may just reveal how important it is for a firm from a developing country to work with established players if it is to compete in mature markets.

As mentioned earlier, Geely was listed on Hong Kong stock exchange in 2005 with Li Shufu as Chairman; however, its share price has risen more than 500 percent in the whole of 2009 alone, largely following the speculation of taking over Volvo (BBC, 2009c). Meanwhile, Geely has received a $334 million investment from a major US bank – Goldman Sachs in 2009 which led Goldman to own 15.1 percent stake of Geely (BBC, 2009d). Therefore, is the investment by Goldman Sachs a vote of

confidence in Geely? As a well-established investment bank, it certainly has more than one way to earn a return on capital. However, such investment does encourage a considered view of the wisdom shown by Geely in buying Volvo and the presence of Goldman Sachs as a financial stakeholder is perhaps a validation of Geely's current and future global expansion plan (Bonnell, 2009). A combination of Geely, Volvo, and Goldman Sachs might just work. After the acquisition, there were lots of rumours and speculation on if and where Volvos will be built in China. On 25 February 2011, Volvo finally announced that it will build its first plant in Chengdu as part of Geely's going west project into central and west China (Figure 31) (People's Daily, 2011).

To some extent, Li Shufu made history by forming the first private-owned Chinese automobile firm. However, the road to success has not been easy for Li Shufu and Geely. The earlier government and legal restrictions as well as lack of technology and experience posed some difficulties for the firm's immediate survival. As a result, imitation and remodelling were adopted by many newly established indigenous firms to begin with including Chery – another indigenous firm but state-owned which will be discussed in the next section. In addition, the cooperation with MBH and involvement of Goldman Sachs also helped Geely to build up its fame and credibility. Moreover, the acquisition of both DSI and Volvo further increased Geely's competitiveness and it will be interesting to see how Volvo performs under Geely in the future.

With regards to future development, although private automobile firms are late comers to the industry, their future is promising.[81] It is important for the private firms (or any firm) to act realistically, instead of being over-ambitious or opportunistic

[81] Interview with Zhang Rong, vice general secretary, BAAM: Beijing, December 2009.

during their future development.[82] In addition, a successful transformation is needed for private automobile firms in the future, because manufacturing low-cost vehicles for a long time may devalue their brand image, which may result in difficulties of moving into high-end segment. Finally, it would be of benefit if government policies became more favourable to private firms.[83]

3. Chery

3.1 Background

Unlike the privately-owned Geely, Chery is a stated-owned firm and the study of Chery here is significant as it aims to show how the government, particularly a local provincial government, can support the development of the indigenous automobile industry.

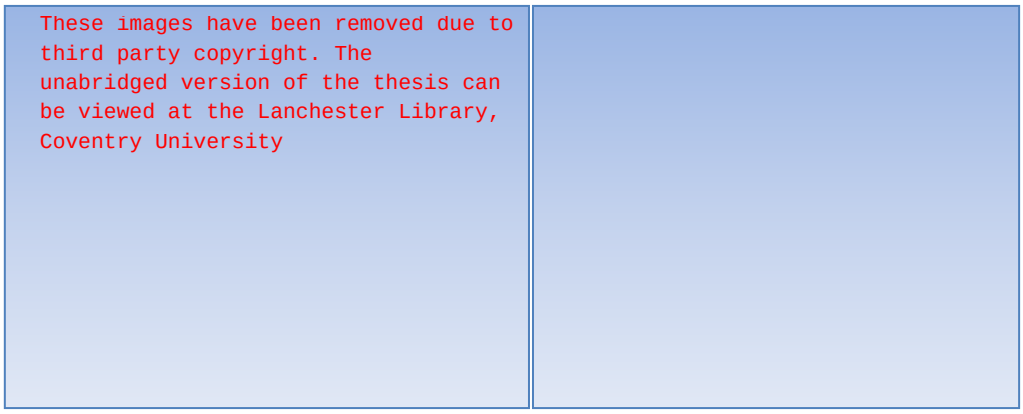
Geely is not alone; the late 1990s also witnessed the birth of another Chinese indigenous automobile firm – Chery Automobile Co., Ltd (Chery). The firm's origin began in a development project of the local government of Wuhu city (Anhui province) (Luo, 2005; Chu, 2011). Although the region is close to Shanghai, Anhui province has not been among the most developed regions in China as it had no major heavy industries at that time. Moreover, Wuhu is a very small city. The city governors were looking for opportunities to develop the local economy and catch up with other regions (e.g. Guangdong, Jiangsu, and Zhejiang provinces) which had experienced fast economic development (Luo, 2005).

The first opportunity arose during a Wuhu governors' visit to Europe in 1995 (Luo, 2005). The city's representatives were informed that British Ford had an engine

[82] Interview with Duan Changzhao, journalist, Beijing Automobile News: Beijing, December 2009.
[83]Interview with Zuo Shiquan, Automobile Research Institute, Tsinghua University: Beijing, December 2009.

assembly line to sell. In 1996, Wuhu government brought this assembly line with its associated engine technology for $25 million (Chin, 2010). It also licensed a chassis from VW Spanish subsidiary – SEAT Toledo to initialise their automobile project (Luo, 2005; Chin, 2010; Lairson, 2010). With regards to management, Wuhu's government successfully lured a 'native son', Yin Tongyao, back to head up Chery as president and CEO. Yin graduated from Anhui Hefei University of Industry with a degree in automobile engineering. Yin was a sound appointment as he had accumulated a wealth of experience in the automobile industry. For example, he had worked in FAW for 12 years and was the manager of FAW VW's Jetta plant before he went to Wuhu where he arrived with a good reputation (Luo, 2005; Lairson, 2010).

Figure 34 – Chery's headquarters and logo



Source: Chery (2010a)

Chery was finally established by the Wuhu government in 1997 and involved combining several local automobile component firms (Zhang and Filippov, 2009; Chin, 2010). Because of the 1994 AIP's constraints on automobile industry, the firm was taken internally as the '951 Project'. To the public, it was called 'Anhui Automobile Parts Industry Co., Ltd' as there were fewer restrictions on the component industry at that time. After a decade of development, Chery, headquartered in Wuhu (Figure 34), became the 4th biggest Chinese automobile firm in terms of total production and number 21 in the world in 2010 (OICA, 2011).

Moreover, it has an annual production capacity of 900,000 units and employs a total number of around 25,000 people (Chery, 2010a). The subsequent sections analyse the firm's development over the last decade and explore the factors that enables the firm to prosper.

3.2 Manufacturing landscape

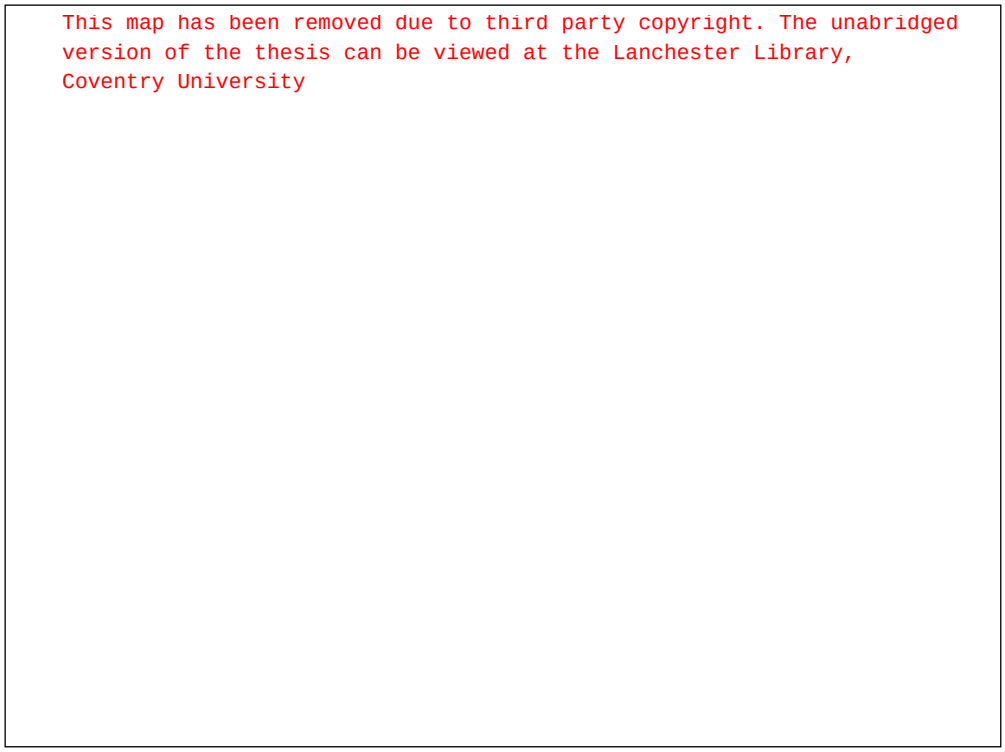
Fifteen years after Chery entered the automobile industry, it currently has four automobile production plants in China (Table 26) with a total of annual production capacity of one million units in 2011 (OICA, 2012; Chery, 2012). Three plants (Wuhu, Dalian, and Kaifeng) are already in production with another (the Ordos plant) still under construction and expected to be completed by 2015 during the country's 12th 'Five Year Plan' (Ma, 2010).

Table 26 – Chery's production plants in China

Like Geely, Chery's plants are also built with strategic considerations in mind. As shown in Figure 35, the plants are designed by Chery to penetrate different geographical areas and market segments in China. For example, the Wuhu plant, where Chery is headquartered, was established as part of the plan of the local government to boost economy. The Dalian plant was completed in 2011 with an annual output of 200,000 units. The plant focuses primarily on passenger cars aiming to meet the demand in northeast China (Chery, 2012). Meanwhile, Chery will be able to benefit from shipping advantages provided by Dalian container and ro-ro ferry terminals which will help Chery expand its domestic and foreign markets. The

Kaifeng plant was also completed in 2011 mainly targeting mini-cars and light trucks. The plant carries Chery's hope of building a sustainable market share in central China. Finally, the Ordos plant is located in western China and it will focus on heavy vehicles such as pickup and vans (Wang, 2010; Chery, 2012). The plant aims to help Chery develop new markets in western China.

Figure 35 – Location of Chery's automobile production plants in China



Source: Chery (2012)

3.3 Product development

With old engine plant equipment from Ford UK, Chery quickly built its own engine plant. Its entry level car – 'Fengyun' (Wind Cloud), came off the production line in December 1999 (Zhang and Filippov, 2009; Chery, 2010a). Initially Chery suffered the same official bans on production as did Geely. Although the Fengyun rolled off the assembly line, Chery was not allowed to sell the model as it had not obtained formal approval from the central authorities. The central government had been restricting the entry to passenger car production because the sector was already highly

fragmented (Marukawa, 2008). As the firm was a new entrant to the industry, the Chinese government would not permit it to produce automobiles. To circumvent the ban, Wuhu government agreed a 'forced marriage' with SAIC (Liu and Fernandez, 2002). It transferred 20 percent of Chery's equity to SAIC at no charge, but on the condition that SAIC management would be excluded from direct management and dividend payments (Luo *et al*, 2009; Marukawa, 2008; Chin, 2010). The Fengyun finally hit the market in 2001 and achieved sales of 28,000 units in the first year. In 2002, it introduced the popular QQ model and sales in 2002 for both models combined were 58,000. By 2003, sales increased to 90,000 units in the domestic market.

Like Geely, the quasi-open architecture approach was also adopted by Chery in its early product development. For example, the Fengyun was built mainly by cobbling together parts from local component firms which had supplied VW and GM in China, and many of the components for the Fengyun were procured from suppliers for FAW's Jetta and SAIC's Santana models (Marukawa, 2008; Chin, 2010).

After a dozen of years of development, Chery has transformed itself into a multi-model firm with a relatively solid product development capability. In order to achieve that, Chery did it in three ways: firstly, it recruited design and product development engineers and production managers who had previously worked for FAW and SAW (Luo *et al*, 2009); secondly, another large group of Chery's engineers were new university graduates from top ranking Chinese universities such as Shanghai Jiaotong University (Fairclough, 2007); thirdly, to further strengthen its product development capacity, Chery hired a number of foreign industry experts from foreign automobile

components firms (Marukawa, 2008). This included Xu Min,[84] an overseas Chinese engineer who had extensive work experience in the US at Delphi and Visteon as an engine expert and vice president (Fairclough, 2007; Chin, 2010). Xu returned to head Chery's automobile engineer institute, and built a team of 35 foreign experts who had worked at Ford, GM, and other automobile firms including 18 Korean experts from Daewoo (Fairclough, 2007; Chin, 2010).

Apart from recruiting technical expertise and staff from domestic as well as overseas, Chery also entered into a growing list of international collaboration projects for product development with foreign firms such as Bertone, Fiat, and Pininfarina of Italy and AVL of Austria (Chin, 2010). The goal was to develop new car models that would help Chery move up the price bracket inside China, and to aim ultimately at European and US markets (Chin, 2010). According to Table 27, the exterior design of Chery's car has been outsourced to firms such as Pininfarina of Italy and Mitsubishi of Japan to take advantage of the skills available on the international market. The engines which Chery produces in its own engine plant have been and are being further developed by an Austrian engineering firm – AVL (Marukawa, 2008; Lairson, 2010).

Table 27 – Chery's international joint R&D

Name	Date	Country	Project
AVL	2003	Austria	Engine
Pininfarina	2007	Italy	New car models
Bertone	2007	Italy	New car models
Fiat	2007	Italy	Components
Richardo Consulting	2007	UK	Hybrid/electric drive-trains
Mitsubishi	2007	Japan	New car models
Quantum LLC	2008	America	New car models

Source: adapted from Fairclough (2007) and Chin (2010)

[84] Mr Xu is now Dean of Institute of Automotive Engineering, Shanghai Jiao Tong University's (Fairclough, 2007).

The longest standing agreement has been with AVL List GmbH, a firm that specialises in internal combustion engines. A joint research programme to develop 18 up-to-date engine models, and Xu directed this cooperative project (Zhang and Filippov, 2009; Chin, 2010). AVL trained Chery engineers to design and build the sophisticated engines. Teams from the two firms worked side by side in Austria and in China. Chery established an AVL department in its R&D centre, to focus solely on engine technology innovation. This engine division soon had a staff of over 200 researchers and more than 10 world-class engine test platforms (Chin, 2010).

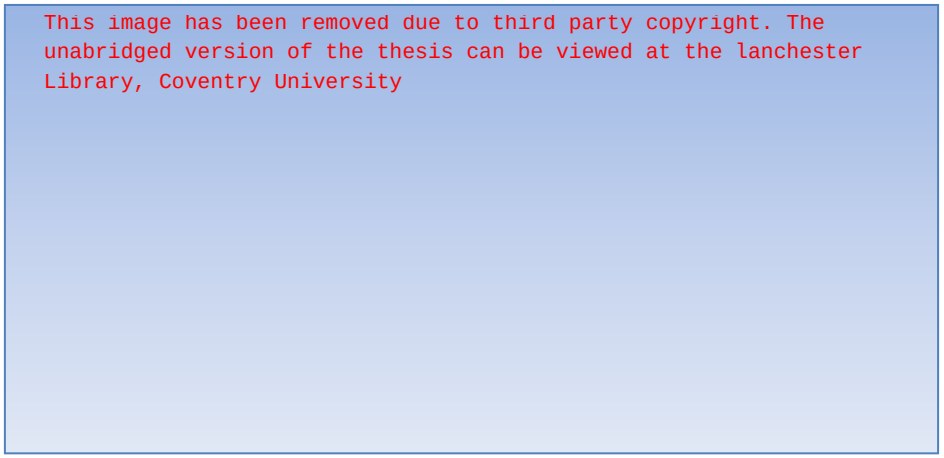
Together with international joint R&D, Chery has received strong support from the Chinese government. At the early stage of development, the government impeded Chery from entering passenger car manufacturing, but after Chery got on the track of rapid expansion, the government has begun to appreciate Chery's efforts for developing indigenous-brand cars, and has started to extend financial support to the firm (Marukawa, 2008). In March 2005, the China Export and Import Bank provided Chery with over US$600 million in export credit for export promotion and overseas expansion, and the China Development Bank also provided a loan of close to US$300 million for Chery to expand its R&D capacities (Chin, 2010). Meanwhile, Anhui provincial government and Wuhu municipal government allocated land to Chery free of charge and provided various tax holidays (Marukawa, 2008).

3.4 Product segmentation

With regards to product segmentation, Chery currently has four models with each of them targeting different market segments (Figure 36). Chery and Riich are primarily targeting the passenger car market with Chery in the lower-class segment and Riich in

the higher-class segment. Rely focus on SUVs while Karry mainly targests at mini-vans and buses.

Figure 36 – Chery's brands



Source: Chery (2010b; c)

By 2010, Chery has 4 main brands (Chery, Riich, Rely, and Karry) with around 20 car models. Total sales amounted to over 530,000 units in 2009 (Table 28). There were 450,000 units sold under the Chery brand, accounting for nearly 85 percent of the total sales. The Rely and Karry brands each achieved just a little over 5 percent of total sales. Riich established to target high-end segment, sold just 15,000 units, less than 3 percent of total sales.

Table 28 – Breakdown of Chery sales, 2009 (thousand)

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Chery, like Geely, has relied heavily on profits from selling cars to the low-end markets, but have realised that there is a need to diversify product range by moving to high-end markets which are more profitable per unit of sale as they cannot live by producing cheap cars if their ambitions are to be achieved.

3.5 Going global

Chery aims high. Two years after its first car rolled off the production line, Chery began exporting to Libya in 2001. The firm now assembles vehicles through joint plants (CKD and SKD) with partners from 8 countries including Egypt, Indonesia, Iran, Malaysia, Russia, Thailand, Ukraine, and Uruguay (Table 29) (Zhang and Filippov, 2009; Chery, 2010d). It also has an intention to open a plant in India (*International Herald Tribune*, 2007). Although they are all soft markets, it is another sign of the growing global ambition of China's automobile firms.

Table 29 – Chery's overseas joint plants

Country	Foreign partner	Date	Location
Iran	Khodro	2003	Babol
Russia	Avtotor	2006	Kaliningrad
Ukraine	UAC	2006	Zaporizhia
Egypt	Egypt Daewoo	2006	Cairo
Indonesia	Indomobil	2006	Jakarta
Malaysia	Alado	2008	Johore Bahru
Uruguay	Socma/Oferol	2008	Montevideo
Thailand	Charoen Pokphand	2008	Rayong

Source: adapted from Chery (2010d), China Cars (2006), Machinery and Electric Products Export Guidance (2007b), Xinjiang Auto (2007), Xinhua Net (2008), Sohu Auto (2008), and Maidment (2009)

Chery has established three CKD plants in the Southeast Asian counties of Thailand, Indonesia, and Malaysia, hoping to serve the ASEAN market (Xinhua Net, 2008; Sohu Auto, 2008). With regards to the Middle East, although Iran is not a mature market, it is a country that harbours ambitions to become the dominant automobile producer in the Middle East. Moreover, Iran has a domestic market of 70 million people. The CKD plant in Russia and SKD Ukraine were both founded in 2006 (China Cars, 2006). The plants also serve Chery as stepping stones on its way to Europe. Chery also established a JV with Egypt Daewoo in Cairo, aiming to open up the North African market (Xinjiang Auto, 2007). Chery became the first Chinese

automobile firm to produce in South America when it opened a CKD assembly line in Uruguay with SOCMA Group of Argentina and Oferol of Uruguay (Maidment, 2009). The Montevideo plant produces Chery's Tiggo range of SUVs and QQ compact cars for the Mercosur market, the South American trading bloc whose full members are Argentina, Brazil, Paraguay and Uruguay which embraces 260 million consumers (Maidment, 2009).

With regards to advanced markets, in 2005, Chery signed an agreement with Visionary Vehicles LLC of the US to export Chinese-made Chery cars to the US market starting in 2007, but the deal was not finalised due to limited financing and strong opposition from GM (Chin, 2010). This was followed up in July 2007 by striking a deal with Chrysler to make small cars under the Chrysler brand for US and European markets (Chin, 2010). Moreover, in August 2007, the firm signed a memorandum of understanding with Fiat to establish a 50/50 JV in Wuhu to produce Alfa Romeo, Chery, and Fiat with an annual production capacity of 175,000 units for both the Chinese and international markets, particularly the European market (Xinhua Net, 2007b). The agreement included a groundbreaking engine purchase deal for Chery to support more than 100,000 1.6L and 1.8L petrol engines per year for Fiat assembled in China and aboard. Fiat was also looking to cut costs in its European operation by importing Chinese-made engines for assembly in Europe (Chin, 2010). However, the joint project has been delayed by Chery in 2009 due to the changing market conditions (China Daily, 2009b). Chery's CEO – Yin Tongyao states that foreign automobile firms are affected by the financial crisis and any additional investment will be difficult for them at a time like this (China Daily, 2009b).

4. Beijing Hyundai

4.1 Background

Apart from private (e.g. Geely) and state-owned (e.g. Chery) automobile firms, the Chinese automobile industry also includes international JVs, and Beijing Hyundai is one of those. The study of Beijing Hyundai is significant here as it aims to show how joint ventures as part of FDI contribute to the development of the Chinese automobile industry; in addition, the case also provides an opportunity to use the firm to illustrate some issues of FDI theory, such as joint ventures, as discussed earlier.

Beijing Hyundai's foreign partner – Hyundai Motor Company (HMC), is part of the Hyundai Corporation – one of South Korea's oldest and most successful *Chaebols*. The Hyundai Corporation was founded in 1946 by Chung Ju-young as an automobile repair shop as a prelude to entering automobile production. By 1997, Hyundai already had over 60 subsidiary firms, more than 200,000 employees and accounted for around 18 percent of South Korea's GDP (Lansbury *et al*, 2006). The development of large scale monopoly capitalism in South Korea through the *Chaebols* has been attributed to the rapid industrialisation led by the state (Amsden, 1989; Dunning, 1997).

The Hyundai Corporation had moved into automobile production by forming HMC in 1967, in line with the government's first and second 'Five Year Plans' which targeted the automobile sector as a key economic pillar (Kim *et al*, 2008; Zou and Lansbury, 2009). The state actively and directly guided the expansion and globalisation of the industry throughout the 1970s and 1980s, providing favourable market restrictions (e.g. the domestic market was protected by tariffs), government-backed bank loans, and strategic infrastructural development (e.g. economic development zones, universities) (Lansbury *et al*, 2007).

HMC began automobile production in 1968 with assistance from Ford; however, the early alliance experienced a poor performance due to differences between the two sides over how to run the business. HMC then switched to the Japanese automobile firm Mitsubishi, and in 1976 produced its first self-developed model, the Pony, with technological assistance from Mitsubishi (Beijing Hyundai, 2010a). In the 1980s, HMC began to convert its production process from manual small-scale to mechanised large-scale and also adopted elements of Japanese quality management, control techniques, and just-in-time (Lee and Jo, 2007). The early development of Hyundai Corporation saw its engagement with Mitsubishi by seeking technological and management know-how through FDI.

As discussed in chapter 4, mergers and acquisitions have played a vital role in the development of multinational automobile firms (Figure 16) including Hyundai. In the 1990s, HMC set up an ambitious goal to become one of the top ten automobile firms in the world by 2000. The first step was the acquisition of Kia, when HMC took the opportunity to acquire the bankrupt Kia as a result of the 1997 Asian financial crisis. Hyundai and Kia then accounted for over 70 percent of the domestic market (Zou and Lansbury, 2009). HMC then expanded its production network by establishing JVs overseas, particularly in the emerging market of Asia. Hyundai Motors India, based in Chennai, has become the largest automobile firm and the second largest exporter of automobiles in India (Lansbury *et al*, 2007).

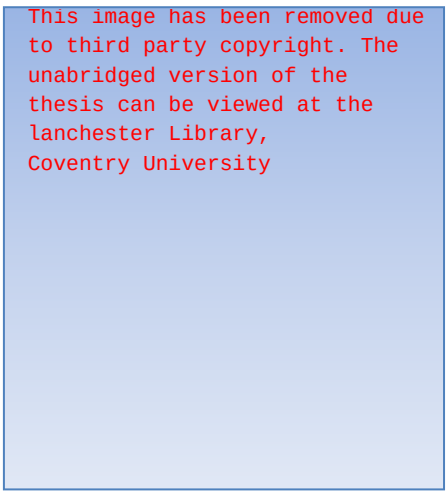
Based on its success in India, HMC looked to China, the biggest emerging market and a key source of future growth. HMC saw the opportunity to invest in China at the time of the countries' accession to the WTO, when the market entry conditions were eased for foreign firms. In October 2002, Beijing Hyundai Motor Co. Ltd (Bejing Hyundai)

was established as a 50/50 JV between HMC and BAIC (Beijing Hyundai, 2010a). Beijing Hyundai took over a former truck factory owned by BAIC, redesigned and rebuilt it within seven months of the two firms coming together (Zou and Lansbury, 2009). Located in an industrial development zone of Beijing, the plant has a registered capital of US$300 million with a contract term of 30 years. As one of the motives underlying JVs discussed in the literature review, this showed Hyundai's engagement in FDI to enter China in order to pursue long-term strategic objectives.

4.2 Manufacturing landscape

Beijing Hyundai's Chinese shareholder – BAIC, is a state-owned firm (Figure 37), and has always wanted to develop passenger cars. BAIC started automobile production in the 1950s, and by the 1960s, it has already had two successful models – the 212 (off-road vehicle) and the 130 (light vehicle); then, it wanted to develop passenger cars, but its applications for an automobile production licence were denied until 2002 when one was granted.[85]

Figure 37 – BAIC's headquarters



Source: BAIC (2009b)

[85] Interview with Zhang Dongsheng, union leader, BAIC: Beijing, November 2009.

The process of gaining approval to enter the Chinese market can be difficult, but Hyundai's Chinese partner, BAIC, helped to manage this process successfully. Beijing municipal authorities favoured working with BAIC, and in turn, the authorities helped to gain central government approval for the operation of Beijing Hyundai (Kim *et al*, 2008). In exchange for advanced technologies and management expertise related to automobile production, HMC was given the opportunity to seize a share of the burgeoning Chinese market.[86] For its part, BAIC provided its knowledge of the local market, access to resources (e.g. labour), and perhaps most valuable – its networks and relations with central government and Beijing municipality (Buckley *et al*, 2004). This was evident in the early stage of Beijing Hyundai's operations: within six months of starting, the Sonata and Elantra models were designated by Beijing municipal authorities as the official police car and standard models for over 67,000 licensed taxis, thereby providing a guaranteed market (Zou and Lansbury, 2009). As a result, Beijing Hyundai has greatly invigorated local economic development, in its immediate environment and in 2003, the output value of the Beijing Hyundai accounted for 12 percent of Beijing's overall industrial output value (Zhan, 2005)

Table 30 – Beijing Hyundai's production plants

Location	Date
Beijing	**2002**
Beijing	**2008**

Source: Kim *et al* (2008), People's Daily (2008), and Beijing Hyundai (2010a)

Table 31 – Beijing Hyundai's engine plants

Location	Date
Beijing	**2004**
Beijing	**2007**

Source: Kim *et al* (2008), People's Daily (2008), and Beijing Hyundai (2010a)

[86] Market for technology.

Beijing Hyundai currently has 2 production plants (Table 30) which are all located in Shunyi District (northeast Beijing). The two plants are approximately 3-miles distant from each other (Beijing Hyundai, 2010b). Together the two plants employ 7,400 people and the new plant is responsible for making the firm's new models such as I30 while the older plant is responsible for the firm's early models such as Sonata (Beijing Hyundai, 2010b). Hyundai's production plants in Beijing do not produce any Kia vehicles, although both brands (Hyundai, Kia) belong to Hyundai Corporation, since their Chinese partners are different (Kia partners with SAW), the production line is not shared (People's Daily, 2008). Two engine plants (Table 31) were also built in 2004 and 2007 respectively based upon on the production plants. The two engine plants do not only serve the Chinese market, but also export to other markets such as Russia.

With regards to distribution channels, Beijing Hyundai decided to adopt the 4S (sale, spare part, service, and survey) shop model, and the first thing was to decide where the firm should locate its dealerships. It classified the Chinese market into seven regions: north, south, east, northeast, central, southwest, and northwest (Kim *et al*, 2008). These seven regions were then regrouped into two major categories, an 'all cities expansion group' (north, south, and east) and a 'core cities expansion group' (northeast, central, southwest, and northwest) (Kim *et al*, 2008).

The firm then established a sequential channel expansion strategy, following a hub and spoke pattern, for each of the two groups of regions. For example, with the hub and spoke approach for the 'all cities expansion group', Beijing Hyundai's distribution channels made inroads into major hub cities in the north, south and east, with markets being based on the consideration of income level, population, and

competition (Kim *et al*, 2008). The hub cities were formed around Beijing and Qingdao in the north, around Hangzhou, Nanjing, and Shanghai in the east, and around Guangzhou and Fuzhou in the south (Kim *et al*, 2008). Those hub cities served as the centrepieces of regional promotion, dealer education, and logistics controls. The firm then expanded its distribution channels to spoke cities (e.g. Jinan, Shenzhen). The next phase of the hub and spoke approach was to enter 24 separate lower-level income areas cautiously, waiting for possible growth opportunities there (Kim *et al*, 2008).

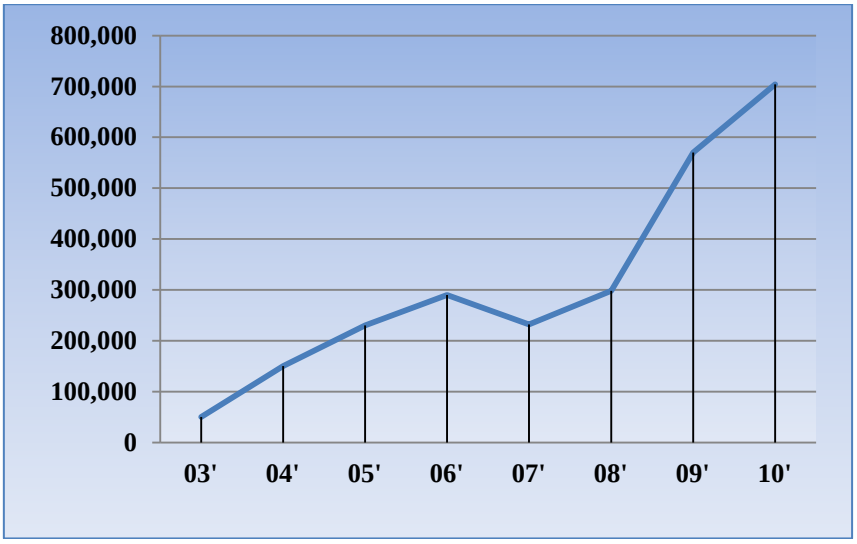
4.3 Product development

With a guaranteed market and low price based entry model, Beijing Hyundai was able to successfully gain a competitive edge in the Chinese market within the first three years of establishment through its Sonata and Elantra. Hyundai's 4th generation Sonata and 3rd generation Elantra were produced and sold by Beijing Hyundai in China, and both models retailed at a lower cost than competitors of the same quality. Although Beijing Hyundai did adopt low price penetration as its entry strategy, it was qualitatively different from Geely and Chery as the latter two competed mainly at the very bottom of the price range. For example, some of the Geely and Chery cars (e.g. Geely's Kingkong, Chery's QQ3) can be purchased for less than US$5,000 whilst Beijing Hyundai's cheapest model, the Verna, costs more than US$9,000. However, Beijing Hyundai set its prices just below that of other foreign JVs firms in order to compete with them. This has been facilitated by the location of its component suppliers. Beijing Hyundai has 118 suppliers in total and 57 suppliers are located in the Beijing area. As of 2008, only 10 percent of automobile components, such as automatic transmission, come from suppliers in South Korea, and all remainder are

purchased from local suppliers (Kim *et al*, 2008). This allows Beijing Hyundai to compete with other JVs on price.

However, the highly-contested Chinese automobile market has presented formidable challenges for the relatively new players. For example, Beijing Hyundai's production dropped by 50,000 units between 2006 and 2007 (Figure 38), sales fell by 21 percent (China Daily, 2008). Several factors were considered to be the causes of Beijing Hyundai's fall. Firstly, there was intense competition as firms such as GM and VW offered heavy discounts on price. Secondly, Beijing Hyundai found it hard to compete in sales and after sales services against the likes of Toyota. Thirdly, it had to face further competition thanks to the rise of newly established indigenous firms such as Geely and Chery as they, too, struggled for market share (discussed before) (China Daily, 2008). In order to cope with these challenges, Beijing Hyundai's strategies included further price cutting, increased training of car dealers, and expanding localised marketing campaigns.

Figure 38 – Beijing Hyundai's production volume, 2003 – 2010



Source: adapted from OICA (2010)

As part of its response to market forces, the firm also introduced a new model, the 4th generation Elantra (*Chinese as*: Elantra Yue Dong), by establishing a second plant in

Beijing next to its first plant (Beijing Hyundai, 2010b). Production was back on track in 2008. In 2009, the firm produced nearly 600,000 units, almost double compared to 2008. The recovery in production levels, on the one hand attested to the correctness of the decisions taken by Beijing Hyundai in handling the challenges it faced whilst, on the other hand, it was also assisted by government's automobile revitalisation plan announced in January 2009 to stabilise the automobile industry in the shadow of global financial crisis. One of the elements of the latter was a 5 percent purchasing tax cut on all passenger cars of 1.6L or below during 2009. Geely and Chery also benefited from the plan.

4.4 Product segmentation

Beijing Hyundai currently operates under 7 models (Table 32). From 2002 to 2010, on average, it launched one model per year. However, since 2009, it has launched 3 models and the latest Verna was released in August 2010 (Beijing Hyundai, 2010b). This experience is illustrative of the booming growth of the Chinese automobile market as well as being indicative of levels of intensive competition between firms. Moreover, it fits well with Tables 16 and 17 discussed in chapter 5 as product diversification also reflects the growing maturity and sophistication of the Chinese market.

In terms of market segment of each model, Beijing Hyundai first built its 4th generation Sonata for the Chinese market in 2002, and followed by the 3rd generation Elantra in 2003. The Sonata 4th generation was sold as of September 2006, and it later launched a revised model for the Chinese market with an updated exterior and improved rear seating. Similarly, the Elantra was also modified. The two earlier established models (Sonata and Elantra) by Beijing Hyundai mainly target the

medium passenger car segment. The Accent is also designed for the passenger car segment, but for the lower-end. The Tucson was introduced in 2005, together with the newly launched IX35; both are aiming at the SUV market. Finally, the I30 and the Verna, launched in 2009 and 2010 respectively, both focus on the small car segment. The I30 is expected to play a key role to compete with Honda's Yaris and Toyota's Fit; it will also compete with Lova of Shanghai GM and Vios of FAW Toyota (Gasgoo, 2008).

Table 32 – Beijing Hyundai's car models

Table 33 – Breakdown of Beijing Hyundai sales, 2011 (thousand)

Source: Sohu Auto (2012)

With regards to the sales performance of each model, as shown in Table 33, the Elantra was the best selling model in 2011 with 304,400 units and accounted for 40 percent of Beijing Hyundai's total sales. The Verna came as the second with 22.2 percent. Although both the Sonata and Elantra target the medium passenger car, their respective sales volume differ significantly, with the Sonata generating only 12.8

percent of total sales. The reason lies in price. The Elantra is sold in China at an average of £10,800 while the Sonata is sold at an average of £16,400, and it is the £5,600 which makes the difference in sales volume (Beijing Hyundai, 2010c). Put in another way, the Sonata is targeting the higher-end of passenger car market.

4.5 Beijing Hyundai as a joint venture

In Dunning's paradigm, ownership advantages are those advantages specific to a firm and dependent on its ownership of particular assets, such as technological capability or ownership of a brand name. Hyundai's ownership advantage in entering the Chinese automobile market is, like other foreign automobile firms operating in China (e.g. BMW, GM, Toyota, and VW), technology superiority over Chinese firms. With respect to brand name, whilst enjoying a strong reputation for quality in its home market, the Hyundai brand has a lower status in China (Kim *et al*, 2008). The Hyundai brand has yet to establish a reputation in China where it faces a strong challenge from earlier and more established foreign brands (e.g. GM, VW). In addition, the brand is under challenge by products developed by Chinese indigenous firms.

According to Buckley and Casson (2009), international JVs represent a partial form of internalisation. Hyundai's entry to the Chinese market, like other foreign automobile firms, has been achieved through establishing a joint venture, in this case with state-owned BAIC. One particular reason why JVs are adopted by foreign automobile firms is because of the host government policy, which is designed to avoid complete dominance over local firms. In such a case, a JV may be the second-best option for foreign investors. The motives underlying JVs have been identified earlier in the literature review. Beijing Hyundai, like many other JVs (e.g. Shanghai GM, FAW

VW), was formed to serve the market and get access to China's enormous 1.3 billion population (market seeking) and to achieve economies of scale and scope (efficiency seeking). The entry of Hyundai to China does not primarily look for low cost and cheap labour (resource seeking).

The location advantages posed by Beijing cannot be ignored. Beijing has long been the centre of Chinese politics and culture. With its municipal area and neighbouring municipal city, Tianjin, the region is ripe for growth because its flat topography of plains and plateaus is conducive to passenger cars usage and sales. Beijing and Tianjin boast the highest rate of driver's licence holders in China (Moon, 2005). Beijing enjoys a large segment of corporate and government demand compared to other parts of China. Therefore, not only does the state-owned BAIC provide Hyundai with local market and resources, but it also supports its political and social networks and relations with the central authority. That is why Hyundai's Sonata and Elantra models could be designated as the official police car and the standard model for taxis respectively after only one year of its entrance to the industry (Zou and Lansbury, 2009). Moreover, although BAIC also partners with Daimler Benz, this does not present problems for Hyundai as the German firm primarily targets the upper end market segments of the SUV and the luxury car markets respectively, which gives Hyundai an almost clear run in the middle and lower market segments.

With regards to the future development of the foreign automobile firms in China, the possibility of wholly foreign-owned automobile firm was discussed during the interviews conducted in this study. A major question is whether China would one day allow wholly foreign-owned subsidiaries in the automobile industry? Both Chinese executives from automobile firms and academic scholars are doubtful. It is almost

impossible unless central government loosens the restrictions; therefore, legal barriers have to be overcome first.[87]

5. Comparisons between Geely, Chery, and Beijing Hyundai

Geely and Chery, took a different approach to development than did the Beijing Hyundai. Both Chery and Geely produced their initial models through a combination of reverse engineering and design modification although they have been able to move from utilising engines of others firms to develop their own designs through strategic alliances and attracting engineers from other firms at home and abroad. On the other hand, Beijing Hyundai from the start benefited strong support from Hyundai of South Korea technically and financially as well as from BAIC in terms of local resources and connections with the central authority.

With regards to product segmentation, the market segment for Geely and Chery has traditionally been in the lower-end, small, and inexpensive cars as the best selling model for both Geely and Chery – Free Cruiser and Chery QQ respectively, are small cars which target lower-income Chinese consumers while Beijing Hyundai's best selling model of Elantra aims at medium passenger car segment with relatively higher-income consumers.

Considering the experiences and paths that have taken Geely and Chery to success so far, the firms' orientation to the low-cost, low priced strategy was rational. Given the notable disparity in income and among regions, there should be a room for low-priced automobiles to survive, as there is potential and realistic demand in the lower-income population in urban areas, vast rural areas, and inland areas. However, the greatest hurdle for these two firms is how they could maintain the low-cost, low-priced

[87] Interview with Liu Siteng, journalist, Beijing Automobile News: Beijing, December 2009.

strategy in its true sense by improving the capability of development, and of production and quality management after the imitation stage.

6. Summary

The late 1990s witnessed indigenous Chinese firms entering the automobile industry. These Chinese firms are divided into two groups: private owned (e.g. BYD, Geely) and state owned (e.g. Brilliance, Chery). The rise of these new indigenous firms is not coincidental; instead, it is the result of modernisation made in the Chinese automobile industry, particularly during the 1980s and 1990s. The indigenous firms carry forward the spirit of self-reliance and innovation, although they have been involved in a number of intellectual property battles with various foreign firms (e.g. GM, Honda, Nissan, Toyota, and VW). The journey to establish competitive indigenous automobile firms has never been easy as so many tasks stood in the way such as lack of technology, government restrictions, and competition from traditional state-owned firms (BAIC, FAW, SAIC, and SAW) and their JVs (e.g. Beijing Hyundai, FAW GM)

After a decade of growth, the indigenous firms have made their first step successfully. The future ahead looks promising as China continues to pose stability both politically and economically, but also challenging. The new indigenous firms should continue to focus on strengthening their own capabilities and optimising their production structures rather than following others blindly (Li, 2009). Moreover, irrational expansion or 'try to help the shoots grow by pulling them upward'[88] as the firms keep on growing needs to be avoided. Although the admiration of foreign luxury automobile brands may still be strong in most of the consumers' minds; nevertheless, the Chinese indigenous automobile firms are intent on playing 'catch-up'.

[88] An old Chinese phase and is used to describe that someone behaves impatient for success and spoils things by excessive enthusiasm, so acts as to destroy very conditions/requirements which success depends upon.

CHAPTER SEVEN – CONCLUSION

1. Introduction

The research presented here is a detailed study of the development of the automobile industry in China since the late 1940s. It examined how the Chinese government took an interventionist rather than laissez-faire approach to actively guide the automobile industry's development particularly by influencing the content and direction of FDI. This chapter now returns to the main aim and objectives of the research set earlier in chapter 1. It also concludes with a discussion of limitations of the research and recommends topics for further research.

2. Review of the research aims and objectives

Before entering into a discussion of the main conclusions drawn from the findings of the thesis, it is timely to recall the aims and objectives set out at the beginning. In chapter 1, it was stated that the primary aim of the research was to analyse the development of the Chinese automobile industry since 1949 and to that end five objectives were laid down as following:

- To examine both the global and Chinese automobile industries in the age of globalisation
- To review the growth pattern of the Chinese automobile industry since 1949
- To investigate the role of government in the development process
- To analyse the role of FDI in the development of the Chinese automobile industry
- To assess to what extent the Chinese automobile industry needs to improve in order to compete globally

The objectives set were focussed on guiding the research, and were therefore, closely linked with what has been discussed throughout the thesis. For example, chapter 4 reviewed the global automobile industry since the 1950s by focusing on the locational

shifts in the geographical pattern of production and on how this affected China's role as part of the international strategies of foreign automobile firms. Chapter 5 analysed the growth and development of the Chinese automobile industry since 1949 and paid particular attention to the role of FDI and of the Chinese government in this progress. Finally, chapter 6 drew attention to the emergence of indigenous firms and explored how they intend to compete globally.

In discussing the conclusions drawn from this thesis, these have to be contextualised firstly, from the foundation of the Communist state and its Marxist-Leninist economic policies down to the death of Mao Zedong in 1976; secondly, within the wider economic and market reforms undertaken by the Chinese state to improve and develop the economy following the death of Mao and, thirdly, within the wider aspects of globalisation in the automobile industry. To facilitate discussion, it is perhaps useful to divide the conclusions drawn in to two sections; the first covering the period down to the beginning of the Open Door policy in the 1980s and the second from then until circa 2005

The initial conclusion is that generally China fits with the pattern of East Asian emerging economies in their industrialisation over the past half century. This means that economic growth and development were guided largely by a near authoritarian state which ensured a secure central banking structure and an ability to control social and political unrest as shown by the suppression of the Tiananmen Square Revolt of 1989. This scenario fits in broadly with Gershenkron's conditions for the role of the strong state and economic development.

A second conclusion is that China's early forays into the automobile industry after 1949 down to and immediately after the death of Chairman Mao in 1976 were

disappointing in that such early development was forced in the sense that early factories were located in virtually every province for reasons of military strategy and security to such a degree that the industry was fragmented from its earliest days which thereby prevented the emergence of natural industrial clusters as happened in the US and Western Europe. Furthermore, this was not helped by an over-reliance on technical and organisational assistance from the Soviet Union which proved short-lived and ended with the Sino- Soviet split of 1960, leaving the industry structurally and technologically weak.

A third point is that although the post-Mao government of 1978 was intent on fostering the growth and development of the automobile industry as an instrument of industrial modernisation, it made the error of favouring a policy of autarky without recourse to external assistance from Western or even Japanese firms. It did not take long for the Beijing government to appreciate that such a course of action was unrealistic due to the structural, technological, organisation and managerial weaknesses across the entire industry. Thus there was little option to change course in the early 1980s and turn to inwards FDI to help it achieve its ambition.

The decision to seek foreign assistance in modernising the automobile industry was vindicated in that by 2010 China had become a major global player with 13 million cars being sold in 2010 with over 12,000 driving licences being distributed every week in Beijing alone in the same year. In this narrow numerical sense the Chinese state's ambition of becoming a global player in the car industry has been achieved.

In evaluating the role of the state in this process; however, it needs to be borne in mind that the Beijing government never envisaged its car industry being dominated by overseas multinational firms. The intent was that there would be parallel growth with

Chinese state-owned firms developing alongside foreign firms in joint ventures. This in essence was a dual development that eventually became a triple development circa 2000 when a small number of privately-owned as well as municipally-owned firms were allowed to participate in the industry. The emergence of what are known as the 'independents' circa 2000 was due to a shift in government policy. Initially, from the mid 1980s down to the late 1990s, the Chinese government modelled its policy on the earlier success of Japanese firms using MITI as an example, but as the greater part of the economy was still under state control, there were strict barriers on entry to the industry and so private investment into the industry was routinely rejected. When the Japanese economy faltered in the 1990s just at a time when Korean car firms were beginning to make their presence felt in the global industry, the Beijing government changed tack and opened the doors to private enterprise hoping to emulate the success of Korean *Chaebols* such as Hyundai. What this shows is that Chinese government had come a long way in its thinking in being sufficiently flexible to move away from its original Marxist – Leninist approach to industrial and market development and embrace a more liberal market and entrepreneurial oriented approach to industrial development. Thus by going through a series of stages since the 1980s, the automobile industry has been transformed from one that produced simply trucks and buses to one turning out a full range of passenger cars as well.

Much was said in Chapter Two on the business reasons why firms indulge in FDI. Investment in China formed part of the policy of globalisation that was being pursued by almost every automobile multinationals as they sought to establish a footprint in every major economy and particularly in emerging economies such as the BRICs. Of the several reasons discussed on why firms indulge in FDI, it can be concluded that two are particularly relevant to China. The most obvious in the early days was low

cost labour, but more important in the longer term was access to what was and still is potentially the largest consumer market in the world, which they were able to dominate through internalising their competitive advantages. With its high rates of economic growth and expanding internal markets, China became increasingly important and attractive as a destination for FDI in the late 1990s when there was a rush of foreign firms entering the Chinese market as the country was about to join the WTO in 2000, bringing it into the mainstream of world trade and its accompanying rules and regulations.

Entailed in the FDI process is the mode of entry to foreign markets. Most multinationals prefer stand alone investments often on Greenfield sites, but because of the Chinese government's intention of exercising control over its emerging automobile industry, this route was not open to foreign firms and so they had to settle for what might be termed the second best option, or be denied entry to the Chinese market. All such major investment were carefully scrutinised and could only take place as joint ventures with a Chinese partner. Moreover, often it was the Beijing government that selected the province where the investment would take place as well as nominating the chosen Chinese partner. Similarly, in a number of cases such as with GM and VW, the government stipulated that R&D centres would be established in China in the hope of forcing greater embeddedness within the fabric of China's automobile industry. Thus it can be said conclusively that the potential attractiveness of the Chinese market allowed the Beijing government to leverage a high level of bargaining strength in dealing with foreign firms. The terms of entry were stringent, but foreign firms were prepared to accept this second best scenario in the hope that they would benefit in the longer term. A similar policy was adopted when

international component manufacturing firms began to follow the automobile manufacturers into the country.

Finally, it needs to be stressed that policy was not always negative and, in line with other economies, inducements were offered to investing firms, but the national government left this to the provincial and municipal authorities Shanghai City Council, for example, provided Volkswagen with all the necessary skilled labour required when it first arrived in the city. Similarly, it helped to create demand for VW's vehicles by creating a taxi firm and giving the German firm the exclusive right to supply all vehicles. Likewise when GM was selected to go to Shanghai, the City Council built a new factory on the Pudong Marshes to accommodate the Americans in less than two years. Finally, the Chonqing authorities built roads and installed power, water and sewage facilities for Ford and gave it free supplies of electricity and water for five years.

One can conclude that in general, FDI has been of considerable benefit to the Chinese automobile industry. This can be demonstrated through the success of firms such as BMW, Ford, GM, and VW in the Chinese market where JVs have accounted for anything between 60 and 70 percent of demand in any one year since the mid 1990s. By raising the standards of production, introducing newer technologies, improving the skills of the work force and targeting their products at the middle and premium ends of the market, JV cars are seen of being of superior quality, safer, and conferring a higher degree of status than indigenous produced vehicles, especially among the professional middle classes. Indeed, native Chinese producers tend to concentrate on entry level vehicles and the lower end of the market. Moreover, as again both GM and VW have demonstrated, FDI has contributed to both national and local economic

development through the generation of employment, the upgrading of workers' skills and by forming relationships with local suppliers to form networks in which the performance of Chinese suppliers was improved sand upgraded. Finally, as a caveat, perhaps it should be borne in mind that overseas firms have shown a reluctance to locate their cutting edge technologies in China because of possible intellectual property theft which has prompted Gallagher to postulate that the Chinese industry might have progressed quicker had the multinationals been prepared to transfer their cutting edge technologies earlier and faster than they did (Gallagher, 2006). This contention though is hard to test.

Though more will be said on government policy towards industrial rationalisation and consolidation later, the governments (national and provincial) have encouraged larger multinationals to become involved in this process. Throughout the thesis emphasis has been laid on the fragmented structure of China's native car industry which is in dire need of rationalisation. The larger state-owned firms have been encouraged to absorb weaker concerns. While the stronger firms can supply much needed capital to their acquisitions, they cannot provide the necessary managerial and technological expertise required because often they have been relatively weak in these areas themselves. Consequently, JV firms have been encouraged to participate in the rescue process. For instance, Shanghai City Council persuaded SAIC-GM to take-over the Wulung Automobile Company in Guangxi Province and effect a turnaround strategy. Similarly, VW has worked closely with component firms in Shanghai to improve product quality. Both examples, therefore, are illustrative of the benefits on FDI to China. Finally, aware that Chinese firms lagged in technological know-how, several multinationals have formed links with national laboratories and universities such as Jiaotong and Tonji in Shanghai and to facilitate the training of engineers as well as

endowing professorial chairs as part of their effort to raise the quality of automobile engineers and technicians in the industry. Though it is difficult to measure the outcomes of such initiatives, it is highly likely that the graduates of such schemes proved of benefit to both Chinese and JV firms and will continue to do so as learning is cascaded downwards.

Globalisation though is not simply about western firms investing in emerging economies. Indeed, the more advanced emerging countries are now investing overseas in the search for markets, technologies, managerial skills and so one. To increase the pace of industrial development, from what has been discussed earlier, it can be concluded that China is no exception to this process. The prime rationale for overseas expansion lies in the fact that Chinese firms have lacked and still do lack core design and R&D facilities resulting in low levels of intellectual property. To improve these via organic growth would take too long and, therefore, with government encouragement, leading firms in both the state and private sectors have embarked on the quicker acquisition route to obtain resources overseas in the hope of transferring any expertise gained back into their own Chinese concerns. An example of this is SAIC's purchase of the intellectual property of the former British firm MG Rover thereby enabling it to built Rover 4 and 75 models in China. Similarly Nanjing Auto bought Rover's assembly track and shipped it to China. Perhaps more significantly as shown in the previous chapter, the independent firm, Geely, bought Volvo from Ford in 2010 so obtained a wide range of engineering assets, sound R& D facilities, a solid brand reputation, a wide range of dealerships on both sides of the Atlantic and an already established market share. Buying assets is insufficient to guarantee success as this often has to be sustained by adequately trained and experienced personnel, which explains why Geely has recognised that it will need assistance from Ford for years to

come if it is to succeed. Likewise, Nanjing Auto recruited senior former Rover personnel to work in its Chinese factories. As such ventures are still in their early days, it is too soon to form any hard and fast conclusions as to their future outcomes. Provided all goes well though Geely in particular should be able to transfer both Swedish and American expertise to its own factories, though some of this might still be subject to agreement with Ford, and continue to sell its products in the American and European markets under the Volvo brand name. Finally, an alternative to overseas acquisition was cooperation with overseas partners such as Chery with Pininfarina of Italy on design and the UK's Ricardo Consulting on electric drive trains.

While the Chinese state's approach to inwards FDI has been successful, its policies in developing the domestic industry appear much more mixed. In discussing this latter issue four key areas stand out: the growth of the industry and its structural problems and subsequent responses to this, the relationship between the central and provincial governments and, finally overseas expansion.

It is safe to conclude that the pace of development of the Chinese automobile industry has been fast and significant. This was down to firstly, the designation of the industry as one of the 'Pillar Industries' in the 1980s which permitted favourable lending for investment from the state and provincial banks. Following on from this was the selection of six key firms such as FAW, SAIC, and SAW as 'national champions' and the growth of JVs. Equally, such expansion was also assisted by China's high levels of economic growth from the late 1980s onwards which saw market expansion due to the rise of a professional middle class in the burgeoning cities of the southern and eastern seaboards where most of the automobile industry was concentrated. Enjoying rising real incomes as well as subsidised rents and other state/employee benefits,

young professionals and a growing entrepreneurial elite provided a ready market for initially entry and then middle range vehicles even if the preference was for JV rather than indigenous produced products because of their superior quality and to the status conferred on being perceived as wealthy enough to afford a higher priced JV product.

What can be deduced from the above is that the geographical development of the automobile industry has been uneven, being highly concentrated in the southern and south eastern litorals with their advanced industrial, commercial and transport infrastructures. It is here where most of the major state-owned and JV firms are located. This means that there are fewer such as car plants in either the country's central or western or even northern regions where most of the plants, owned either by the provincial governments or relatively small firms, try to satisfy local rather than national demand. Primarily this is a reflection of the lower levels of economic development and real incomes in those regions which translates into lower levels of demand.

Nevertheless, as has been said repeatedly, the Chinese automobile industry remains highly fragmented partly due the historical legacy of the Cold War and partly to the fact that once the national government had designated the automobile industry as a 'pillar industry', many provinces followed suit and did likewise to their own domestic car industries and firms. The consequence of this was that even as late as 2000, the number of production units in China was somewhere in the region of 120 plus. The consequence was that, even with the more advanced provinces, there were too many factories that lagged in technology, organisational and managerial skills and had poorly trained work forces, resulting in a lack of economies of scale, high unit costs and low quality products. In theory the industry required ruthless rationalisation to

weed out the weaker firms and so concentrate production in the hands of more economic units.

The Beijing and provincial governments have been well aware of the problems described above, but despite edicts and policy statements issued from Beijing from 1994 onwards, little has been achieved and the industry remains highly fragmented. The reasons for this are easily concluded. Firstly, the failure to rationalise is a reflection of the continuous power struggles between Beijing and provincial governments, jealous of their privileges. Despite the impression of China being an all-powerful centralised state, Beijing has little power over the economic and social policies of provincial governments. To maintain or suppress possible social and political unrest in the provinces the central government ceded a great deal of fiercely guarded economic and industrial autonomy.

In turn, provincial authorities have sought to protect and even expand their automobile industries, seeing them and their suppliers as generators of employment and wealth. Indeed, factory closure and subsequent unemployment might well have serious social implications, a state that both the regional and Beijing governments would prefer to avoid. Secondly, choosing which factories to close between and even within provinces would prove difficult as there are so many equal candidates and so each province tends to guard its position against others. Thirdly, the various Beijing ministries, especially the MMI, are weak and have little power to implement national policy edicts in the provinces. Additionally, the MMI has to work with several other rival ministries in a policy making system with little room for prioritisation or coordination of specific policies so that there is little sense of urgency in policy implementation. Essentially what rationalisation has taken place within the industry

has been either at the behest of regional/municipal governments like that of Shanghai within their own boundaries or to market forces.

Following Dunning's development path, there comes a time when countries on which have previously been recipients of FDI begin to export overseas. To date, China's exports of vehicles has been small with cars being sent to countries in neighbouring Asia or to other soft markets such as those in Africa where quality and safety standards are significantly lower than those in Europe or the US. Chinese firms, therefore, compete almost solely on price and it has been argued that such markets are used mainly as test beds to measure over time how Chinese vehicles fare against their Western counterparts in places where road and driving conditions may well be much inferior to those in Western Europe for example. It could be concluded then that such soft markets are but a stepping stone for entry to future markets.

Where then does China's industry stand in relation to being a global player? From the evidence presented here it can be concluded that the Chinese automobile industry has made enormous strides since the onset of the Open Door Policy. However, regardless of its output and market size, Chinese firms remain inferior to their western counterparts and also to Japanese and Korean firms. The Chinese state is well aware of the shortcomings, but despite being able to control the activities of multinational firms it is highly dependent on them for investment, technology and organisational, technical and managerial skills. At the heart of this is China's low levels of intellectual property and the huge structural weaknesses with which the automobile industry is riven to say nothing of weaknesses in R&D. Steps are being taken to overcome these, but until such deficiencies are countered successfully, China will remain as a second tier player. Perhaps just as important, of the many firms in China

probably no more than eight are currently close to being able to compete against foreign concerns. Indeed, by far the majority will for many years to come before to operate within the domestic market. Even then, it will probably take another five to ten years for the leading firms to catch up with western firms and compete equally in the open market.

3. Contribution to knowledge and limitations of the research

This research makes several claims for contributions to knowledge. Firstly, it is a longtitudinal study of the Chinese automobile industry, verging on being an economic history of the industry that still waits to be written. Seccondly, it provides a focus on the role of state in looking at the influence of both the national and provincial governments. Thirdly, a considerable amount of emphasis is laid upon the role of foreign direct investment in the industry and evaluates it contribution. Additionally, in looking at the role of government policy the thesis offers originality in that it exposes the tensions within policy making and ties these into the government's failure to rationalise the industry. Fouthly, the three case stuies examined at are unique in their originality. Finally, the basic methodology applied is not original, but a significsnt contribution was made in the use of interviews in trying to use evidence from a range of sources, including company reports, to arrive at conclusions

Like all Ph.D theses this one, too has its limitations. Perhaps more could have been written on the the financial aspects of FDI and more emphasis given to the precise technology transfers between the foreign multinationals and their Chinese partners or for that matter more on the relationships between overseas managers and their Chinese counterparts, but much of this would have necessitated another thesis.

However, it can be argued that for the nature of the subject matter the areas researched and the methodology chosen for this research were appropriate.

The application of the theoretical framework throughout the thesis and in the analysis of the case studies in particular has proved relatively robust. Because the research has followed a qualitative approach, the level of validity is high since it has benefited from the responses from the participants interviewed whose knowledge has facilitated a better understanding of many of the issues raised in the discussion. This raises the issue of the difficulty of generalisation from the findings. However, Marshall and Rossman (1999) suggest that as long as the researcher, using a rigorous non-standardised approach, makes it clear that it is not his intention to replicate his research findings to the whole population, this is not a problem. Another limitation of this research is that it has used a relatively small number of cases given the number of firms in the Chinese automobile industry, and it could be argued that this may affect the reliability of the findings. However, this can perhaps be counterbalanced by arguing that the small sample allowed greater in-depth analysis and so gives strength, richness, and validity to the findings.

4. Avenues for future research

With recommendation for future research, there seems to be little doubt that much more work could be carried out on how the large state-owned firms have developed since the late 1980s as a series of case studies or even into the developing patterns of organisational behaviour between them and their JV partners to see what lessons have been accumulated over the past twenty or so years. Further research could be undertaken on how new indigenous could transform themselves to face these challenges of globalisation and more open competition. For example, how can Geely

improve its quality and competitiveness through its acquisition with Volvo? Equally, is there anything that Volvo can benefit from through its new relationship with a Chinese firm? For example, there has been a recent debate between Li Shufu and the board of Volvo over the firm's future brand positioning in different markets (Liu, 2010; Shirouzu, 2010). Additionally, more work needs to be carried out on the prospects for the automobile industry in central and western China where there are over 700 million inhabitants. Perhaps research might also explore how relationships between the Beijing and Provincial authorities might be improved to benefit the automobile industry nationally by dealing with the structural problems in an orderly fashion even though this might be painful in terms of factory closures and resulting unemployment.

There is no doubt that the car market in China will continue to expand and will remain attractive to foreign investment and that the national government will continue to support the automobile industry in all aspects even though many indigenous firms may encounter many difficulties in surviving. The hope for most Chinese is that someday Chinese designed and built cars will be able to compete head to head and be recognised as equal to the best in the world.

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APPENDIX – Interview Questions

1) Reasons for foreign direct investment (FDI)

- What do you consider to be the main reason why foreign automobile firms choose to invest in China?

2) Nature of joint ventures

- With respect to the joint venture mode of FDI, what are the differences between the behaviour and attitudes of American, European and Japanese automobile firms towards their Chinese partners?
- One of the problems with international JVs is the complexity of the cross-holding partnerships. For example: Honda has two JV partners, one with GAIC and the other with SAW. Both JVs are competing for new products and markets; thus, there is potentially unhealthy competition between the two Chinese operations. What is your view on this?

3) Impact of joint ventures

- What do you think Chinese firms have learned about automobile production techniques and work organisation from their foreign partners? Specifically, to what extent has lean production been adopted?
- It is well known that the training of management cadres in China needs improving. How do you think this can be best affected?
  Should it be through in-house training? or
  Should Chinese universities be involved in management training for the automobile firms? or
  Should Chinese managers be educated abroad in order to help improve the quality of management in automobile firms? or
  Should more western trained managers be employed by Chinese firms to help improve the quality of management?
- International JVs are the favoured instrument/tool to achieve technology transfer and rapid growth of the automobile industry. What do you consider to be the main contributions of international firms to the growth of China's automobile industry?
- There is little doubt about the benefit of lean production, especially with the success of Japanese automobile firms, however, it is also understood that the method is difficult to implement. In the case of China where traditional mass production is still largely undertaken, how do we tackle this issue?

4) Role of central and local governments

- How important do you consider the role of the Chinese government in the development of the automobile industry?
- Do you think that the provincial governments play a positive or negative role in developing the automobile industry and how is this influenced by the tensions between local governments and the central government?

5) Structural aspects of the Chinese automobile industry

- Chinese domestic independent firms are doing well despite late establishment as well as competition particularly from international JVs which enjoy a number of advantages (e.g. technology and finance). In your opinion:

  What have made them successful so far?
  What are your advices for their future development?
  Would it be possible that domestic independent firms will also form international JVs (e.g. Shanghai VW and Guangzhou Honda) with foreign partners in the future?
- What do you consider the future for wholly-owned foreign subsidiaries in the Chinese automobile market?
- The protection of intellectual property (IP) has been a major concern for foreign firms engaging in operations in China, although with government legislation and WTO rules, it is still difficult for foreign firms to sustain their IP. GM battled with Cherry over the design of the QQ mini-car plus Toyota battled with Geely over the trademark infringement are just few recent examples of this issue.
  What is your opinion on this?
- Are Chinese firms ready to export their vehicles to western markets? If not how can they best prepare to meet international competition in advanced markets?
- In recent years, few Chinese automobile firms (e.g. SAIC) have been involved in cross-national takeover and acquisition, what is your opinion on this?

6) Components industry

- The components industry in China lags behind its western counterparts and needs massive rationalisation. How do you think this will come about? To what extent is there a danger of western component firms coming to dominate the industry in China because of their superior technology?
- In general, the automobile firms still import key components and knowledge-intensive parts from international suppliers with operation in China. In line with China's commitment to the WTO which saw an average tariff on automobile parts and components reduced from 23 percent to 10 percent. The reduction further increases the attractiveness of components from foreign supply firms. In your opinion, how do domestic independent component firms cope with the situation?

7) Future prospects

- Overall, what is your prospect of the future development of the Chinese automobile industry?